



U.S. Department of the Interior  
Bureau of Land Management

Lakeview Resource Area  
Lakeview District Office  
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Lakeview, Oregon 97630



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# Lakeview Proposed Resource Management Plan and Final Environmental Impact Statement

Volume 2 [of 4] — *Appendices*



Lakeview Proposed Resource Management Plan  
and Final Environmental Impact Statement — *Appendices*

As the Nation’s principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historic places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interest of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. Administration.

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# Abbreviations and Acronyms

**Reader note:** Refer to the list below for abbreviations or acronyms that may be used in this document.

**ACEC** ~ area of critical environmental concern  
**APHIS** ~ Agricultural Plant and Animal Health Inspection Service  
**AUM** ~ animal unit month  
**BIA** ~ Bureau of Indian Affairs  
**BLM** ~ Bureau of Land Management  
**BMP** ~ best management practice  
**BOR** ~ Bureau of Reclamation  
**CAA** ~ “Clean Air Act”  
**CFR** ~ “Code of Federal Regulations”  
**CWA** ~ “Clean Water Act”  
**DLCD** ~ Department of Land Conservation and Development  
**DOD** ~ Department of Defense  
**DOE** ~ Department of Energy  
**DOI** ~ Department of the Interior  
**EIS** ~ environmental impact statement  
**EPA** ~ Environmental Protection Agency  
**FAA** ~ Federal Aviation Administration  
**FERC** ~ Federal Energy Regulatory Commission  
**FLPMA** ~ “Federal Land Policy and Management Act”  
**HAZMAT** ~ hazardous materials  
**ICBEMP** ~ Interior Columbia Basin Ecosystem Management Project  
**IMP (wilderness)** ~ “Interim Management Policy for Lands Under Wilderness Review” 1995  
**ISA** ~ instant study area  
**LCDC** ~ Land Conservation and Development Commission  
**LRA** ~ Lakeview Resource Area  
**NCA** ~ national conservation area  
**NEPA** ~ “National Environmental Policy Act”  
**NRHP** ~ National Register of Historic Places  
**NOAA** ~ National Oceanographic and Atmospheric Administration  
**NPS** ~ National Park Service  
**ODA** ~ Oregon Department of Agriculture  
**ODEQ** ~ Oregon Department of Environmental Quality  
**ODF** ~ Oregon Department of Forestry  
**ODFW** ~ Oregon Department of Fish and Wildlife  
**ODOT** ~ Oregon Department of Transportation  
**OHV** ~ off-highway vehicle  
**ONHP** ~ Oregon Natural Heritage Program  
**PRIA** ~ “Public Rangelands Improvement Act”  
**RMP** ~ resource management plan  
**RNA** ~ research natural area  
**SMA** ~ special management area  
**TNC** ~ The Nature Conservancy  
**USDA** ~ U.S. Department of Agriculture  
**USDI** ~ U.S. Department of the Interior  
**USFS** ~ U.S. Forest Service  
**USFWS** ~ U.S. Fish and Wildlife Service  
**USGS** ~ U.S. Geological Survey  
**VRM** ~ visual resource management  
**WSA** ~ wilderness study area  
**WSR** ~ wild and scenic river

# Appendices —

## Introduction

This volume includes appendices containing more detailed information supporting the text in Volume 1. Those appendices which were updated in response to public and internal comments were reprinted with corrected or additional text underlined. A few new appendices were added (Appendix E6, Appendix R, and Appendix S).

Many of the appendices that were printed as part of the Draft RMP/EIS Volume 2 did not change during the preparation of the Lakeview Proposed RMP/Final EIS and, therefore, were not reprinted in an effort to reduce the final document size and printing costs. For this reason, the draft document should be kept by the reviewer as an important reference, as there are many places in the final document where the reader is referred to an appendix in the Draft RMP/EIS. The Table of Contents at the beginning of Volumes 1 and 2 includes the appendices that are not reprinted with an appropriate page reference to Volume 2 of the Draft RMP/EIS.





# Appendix B — Planning Criteria, Legal Authorities, and Relationship/Consistency to Other Plans

## General Planning Criteria

The following general planning criteria will guide the preparation of the resource management plan (RMP)/ environmental impact statement (EIS) and will continue to guide land-use decisions made in the future.

- Apply the principles of multiple use and sustained yield as set forth in the “Federal Land Policy and Management Act” (FLPMA) and other applicable laws.
- Use a systematic, interdisciplinary approach to achieve integration of physical, biological, economic, social, and environmental aspects of public land management.
- Comply with applicable laws, regulations, Executive orders, and policies including, but not limited to state and Federal air, water, noise, or other pollution standards, the “National Environmental Policy Act” (NEPA), the “Endangered Species Act,” the “National Historic Preservation Act,” the “Taylor Grazing Act,” and others.
- Give priority to the identification, designation, protection, and special management of areas of critical environmental concern (ACEC’s) and wild and scenic rivers (WSR’s).
- Consider the present and potential uses of the public lands along with the relative significance of the public land products, services, and uses to local economies.
- Consider the impacts on adjacent non-Federal lands and on areas of split estate.
- Consider the relative scarcity of the values involved and the availability of alternative means (including recycling) and sites for providing those values.
- Weigh long-term benefits and detriments against short-term benefits and detriments.
- Rely on available inventories of the public lands, their resources, and other values. Update inventories to the extent necessary to reach sound management decisions.
- Coordinate Bureau of Land Management (BLM) resource inventory, planning, and management activities with other Federal agencies, state and local governments, and Native American Tribes to the extent consistent with the laws governing the administration of the public lands.
- Provide opportunities for public involvement, including early notice and other opportunities for citizens, interested groups, and others (including Native American Tribes) to participate and comment on the plan.
- Apply the Rangeland Health Standards and Guidelines (USDI-BLM 1997b, 2001b, 2001c).
- Consider the large-scale ecological context provided by the Interior Columbia Basin Ecosystem Management Project (ICBEMP) scientific findings, where appropriate (USDA-FS and USDI-BLM 1996a).
- Comply with the BLM national policy on special status species which states that “BLM shall carry out management consistent with the principles of multiple use, for the conservation of candidate (and sensitive) species and their habitats and shall ensure that actions authorized, funded, or carried out do not contribute to the need to list any of these species as threatened or endangered.” (USDI-BLM 1988b).
- Apply the “Greater Sage-Grouse and Sagebrush-Steppe Ecosystem Management Guidelines,” where appropriate (Sage-Grouse Planning Team 2000).
- Reflect Federal land management agency obligations under applicable Tribal treaties and laws or Executive orders relating to Native American reserved rights, religious freedoms, traditional use areas, etc.

## **Planning Criteria Specific to Resolving the Issues**

Five issues were identified during scoping that need to be resolved through the planning process. In addition to the general planning criteria identified above, other specific planning criteria were developed. These criteria are described in detail in Chapter 1, Volume 1.

## **Criteria for Selecting the Preferred Alternative (Proposed RMP)**

In selecting the preferred alternative and the Proposed RMP, the BLM considered:

- The degree to which the alternative accomplished the management goals and resolved the issues.
- The discretionary limits established through applicable laws, regulations, Executive orders, and agency policies.
- The completeness as a land use plan.

## **Legal Authorities**

### ***Federal Statutes***

A number of Federal statutes have been enacted over time to establish and define the authority of BLM to make decisions on the management and use of resources on public land. Following is a list of major legal authorities relevant to BLM land use planning.

“Federal Land Policy and Management Act” (FLPMA) of 1976, as amended, 43 U.S.C. 1701 et seq., provides the authority for BLM land use planning.

Section 102(a)(7) and (8) sets forth the policy of the United States concerning the management of BLM lands.

Section 201 requires the Secretary of the Interior to prepare and maintain an inventory of all BLM lands and their resource and other values, giving priority to ACEC’s; and, as funding and workforce are available, to determine the boundaries of the public lands, provide signs and maps to the public, and provide inventory data to state and local governments.

Section 202(a) requires the Secretary, with public involvement, to develop, maintain, and when appropriate, revise land use plans that provide by

tracts or areas for the use of the BLM lands.

Section 202(c)(9) requires that land use plans for BLM lands be consistent with Tribal plans and, to the maximum extent consistent with applicable Federal laws, with state and local plans.

Section 202(d) provides that all public lands, regardless of classification, are subject to inclusion in land use plans, and that the Secretary may modify or terminate classifications consistent with land use plans.

Section 202(f) and 309(e) provide that Federal, state, and local governments and the public be given adequate notice and an opportunity to comment on the formulation of standards and criteria for, and to participate in, the preparation and execution of plans and programs for the management of the public lands.

Section 302(a) requires the Secretary to manage the BLM lands under the principles of multiple use and sustained yield, in accordance with, when available, land use plans developed under section 202 of FLPMA, except that where a tract of BLM lands has been dedicated to specific uses according to any other provisions of law, it shall be managed in accordance with such laws.

Section 302(b) recognizes the entry and development rights of mining claimants, while directing the Secretary to prevent unnecessary or undue degradation of the public lands.

“National Environment Policy Act” (NEPA) of 1969, as amended, 42 U.S.C. 4321 et seq., requires the consideration and public availability of information regarding the environmental impacts of major Federal actions significantly affecting the quality of the human environment. This includes the consideration of alternatives and mitigation of impacts.

“Clean Air Act” (CAA) of 1990, as amended, 42 U.S.C. 7418, requires Federal agencies to comply with all Federal, state, and local requirements regarding the control and abatement of air pollution. This includes abiding by the requirements of state implementation plans.

“Clean Water Act” (CWA) of 1987, as amended, 33 U.S.C. 1251, establishes objectives to restore and maintain the chemical, physical, and biological integrity of the Nation’s water.

“Federal Water Pollution Control Act,” 33 U.S.C. 1323, requires the Federal land manager to comply with all Federal, state, and local requirements, administrative authority, process, and sanctions regarding the control and abatement of water pollution in the same manner and to the same extent as any nongovernmental entity.

“Safe Drinking Water Act,” 42 U.S.C. 201, is designed to make the Nation’s waters “drinkable” as well as “swimmable.” Amendments in 1996 establish a direct connection between safe drinking water and watershed protection and management.

“Endangered Species Act” of 1973, as amended, 16 U.S.C. 1531 et seq.:

Requires that ecosystems upon which threatened or endangered species depend be conserved and provides a program for the conservation of such species (section 1531[b], Purposes).

Requires all Federal agencies to conserve threatened or endangered species and utilize applicable authorities in furtherance of the purposes of the “Endangered Species Act” (section 1531[c][1], Policy).

Requires all Federal agencies to avoid jeopardizing the continued existence of any species that is listed or proposed for listing, and to avoid destroying or adversely modifying designated or proposed critical habitat (section 1536[a], Interagency Cooperation).

Requires all Federal agencies to consult, in accordance with section 7, with the Secretary of the Interior, through the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service, to ensure that any Federal action or activity is not likely to jeopardize the continued existence of any species listed or proposed to be listed under the provisions of the “Endangered Species Act,” or result in the destruction or adverse modification of designated or proposed critical habitat (section 1536[a], Interagency Cooperation, and 50 CFR 402).

“Bald Eagle Protection Act” of 1973, 16 U.S.C. 668, established the eagle as a protected species.

“Wild and Scenic Rivers Act,” as amended, 16 U.S.C. 1271 et seq., requires the Federal land management agencies to identify potential river systems and then study them for potential designation as wild, scenic, or recreational rivers.

“Wilderness Act,” as amended, 16 U.S.C. 1131 et seq., authorizes the President to make recommendations to the Congress for Federal lands to be set aside for preservation as wilderness.

“Antiquities Act” of 1906, 16 U.S.C. 43–433, protects cultural resources on Federal lands and authorizes the President to designate national monuments on Federal lands.

“Archaeological and Historic Preservation Act” of 1974, as amended, 16 U.S.C. 469a-1 et seq., provides for the preservation of historical and archeological data which might otherwise be lost during the construction of a dam.

“Archaeological Resources Protection Act” of 1979, 16 U.S.C. 470aa et seq., provides for the protection of archaeological resources on public lands.

“National Historic Preservation Act,” as amended, 16 U.S.C. 470, expands protection of historic and archaeological properties to include those of national, state, and local significance and directs Federal agencies to consider the effects of proposed actions on properties eligible for or included in the “National Register of Historic Places” (NRHP).

“American Indian Religious Freedom Act” of 1978, 42 U.S.C. 1996, establishes a national policy to protect and preserve the right of American Indians to exercise traditional Indian religious beliefs or practices.

“Native American Graves Protection and Repatriation Act” of 1990, 25 U.S.C. 3001, provides protection of native American grave sites and associated artifacts.

“Recreation and Public Purposes Act” of 1926, as amended, 43 U.S.C. 869 et seq., authorizes the Secretary of the Interior to lease or convey BLM lands to others for recreational and public purposes under specified conditions.

“Federal Coal Leasing Amendments Act” of 1976, 30 U.S.C. 201(a)(3)(A)(i), requires that coal leases be issued in conformance with a comprehensive land use plan.

“Surface Mining Control and Reclamation Act” of 1977, 30 U.S.C. 1201 et seq., requires application of unsuitability criteria prior to coal leasing and also to proposed mining operations for minerals or mineral materials other than coal.

“Mineral Leasing Act” of 1920, as amended, 30 U.S.C.

181 et seq., authorizes the development and conservation of oil and gas resources.

“Onshore Oil and Gas Leasing Reform Act” of 1987, 30 U.S.C. 181 et seq., provides:

Potential oil and gas resources be adequately addressed in planning documents;

The social, economic, and environmental consequences of exploration and development of oil and gas resources be determined; and

Any stipulations to be applied to oil and gas leases be clearly identified.

“General Mining Law” of 1872, as amended, 30 U.S.C. 21 et seq., allows the location, use, and patenting of mining claims on sites on public domain lands of the United States.

“Mining and Mineral Policy Act” of 1970, 30 U.S.C. 21a, establishes a policy of fostering development of economically stable mining and minerals industries, their orderly and economic development, and studying methods for disposal of waste and reclamation.

“Taylor Grazing Act” of 1934, 43 U.S.C. 315, authorizes the Secretary of the Interior to establish grazing districts on public domain lands chiefly valuable for grazing and raising forage crops. The Act also provides for the classification of lands for particular uses.

“Public Rangelands Improvement Act”(PRIA) of 1978, 43 U.S.C. 1901, provides that the public rangelands be managed so that they become as productive as feasible in accordance with management objectives and the land use planning process established pursuant to 43 U.S.C. 1712.

“Oregon Public Lands Transfer and Protection Act” of 1998, provides the general management direction for lands transferred between the Hart Mountain National Antelope Refuge and the Lakeview District BLM in 1998. It also amended the refuge boundary to facilitate more efficient management by both agencies.

“Land and Water Conservation Fund Act” of 1965, 30 U.S.C, provides cost-shared funding to Federal, state, and local governments to purchase lands for parks, open space, refuges, etc.

“Interior Appropriations Act” of 1992 directed the BLM to develop a plan to restore and maintain the Federal/private land ratio within Lake and Harney

Counties, Oregon, to that which existed on September 30, 1991.

“Federal Noxious Weed Act” (Public Law 93-629) and “Carson-Foley Act” (Public Law 90-583) require the Federal government to control weeds on Federal lands.

### ***Executive Orders***

Executive Order 11644 (Use of Off-Road Vehicles on the Public Lands) established policies and procedures for controlling the use of off-road vehicles on public lands.

Executive Order 11988 (Floodplain Management) directs Federal agencies to reduce the risk of flood losses and impacts of floods on human health and safety, along with restoration and preservation of floodplains.

Executive Order 11989 (Off-Road Vehicles on Public Lands) amended Executive Order 11644.

Executive Order 11990 (Protection of Wetlands) encourages Federal agencies to minimize losses and impacts to wetlands.

Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations), requires Federal agencies to consider the impacts of its programs on minority and low income populations.

Executive Order 13007 (Indian Sacred Sites), 61 Fed. Reg. 26771 (1996), requires Federal agencies to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions to:

Accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners; and

Avoid adversely affecting the physical integrity of such sacred sites.

Executive Order 13084 (Consultation and Coordination with Indian Tribal Governments) provides, in part, that each Federal agency shall establish regular and meaningful consultation and collaboration with Indian Tribal governments in the development of regulatory practices on Federal matters that significantly or uniquely affect their communities.

Executive Order 13112 (Invasive Species) provides that no Federal agency shall authorize, fund, or carry out



actions that it believes are likely to cause or promote the introduction or spread of invasive species unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk or harm will be taken in conjunction with the actions.

Executive Order 13212 (President's National Energy Policy) provides that a statement of adverse energy impact shall be prepared whenever a decision will have a direct or indirect adverse impact on energy development, production, supply, and/or distribution. This statement has been prepared and is included in Appendix T.

### ***Secretarial Orders***

Secretarial Order 3175 (incorporated into the Departmental Manual at 512 DM 2) requires that if Department of the Interior (DOI) agency actions might impact Indian trust resources, the agency explicitly address those potential impacts in planning and decision documents, and the agency consult with the Tribal government whose trust resources are potentially affected by the Federal action.

Secretarial Order 3206 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities) and the "Endangered Species Act" require DOI agencies to consult with Indian Tribes when agency actions to protect a listed species, as a result of compliance with "Endangered Species Act," affect or may affect Indian lands, Tribal trust resources, or the exercise of American Indian Tribal rights.

### **Relationship to Federal Agency Plans and Programmatic Environmental Analyses**

A number of land use or resource management plans have been developed by the BLM and other Federal agencies which govern how management is currently carried out within the planning area. The Lakeview Resource Area (LRA) is responsible for determining if the proposed resource management plan is in conformance with these plans. The following Federal plans or programmatic environmental analyses have been identified as applicable to the planning area and, unless otherwise noted, the proposed Lakeview Proposed RMP/Final EIS is believed to be in conformance with these plans. Where appropriate, the management direction and previous management decisions set forth by these documents are used to tier analyses performed in this plan, or are incorporated by reference, and

therefore, are not repeated in detail within the document. Pertinent decisions already established by these documents are not being revisited here, but are merely mentioned to give the reader a broad perspective of all management direction pertinent to the planning area.

"Management Framework Plans for the High Desert, Warner Lakes, and Lost River Resource Areas" (USDI-BLM 1983a, 1983b, 1983c): Historically, the Lakeview District was comprised of three resource areas. Due to a reorganization of the Lakeview District in the late 1980s, the majority of the Lost River Resource Area became what is now known as the Klamath Falls Resource Area. The Lakeview Planning Unit portion of the Lost River Resource Area was transferred, along with the High Desert and Warner Lakes Resource Areas to the newly formed LRA as part of this reorganization. The three management framework plans, along with the "Lakeview Grazing Management Final Environmental Impact Statement and Record of Decision" (USDI-BLM 1982a, 1982b) form the main foundation of the existing management direction for the LRA and are described in more detail under Alternative A, the no action alternative. Some of this direction will also be carried forward into other management alternatives in this RMP, where appropriate.

Since these management framework plans were completed, three plan amendments have also been completed. Two amendments address the designation and management of two ACEC's (USDI-BLM 1989c, 1989b, 1990b, 1990c, 1990d, 1996c, 1996d). The third addresses a transfer of land management jurisdiction with the Hart Mountain National Antelope Refuge (USDI-USFWS and USDI-BLM 1998a, 1998b). This amendment was completed by congressional legislation in 1998 and designates the boundary and management for the Guano Creek Wilderness Study Area (WSA) Cooperative Management Area. The direction contained in these three amendments will be brought forward in this RMP as management common to all alternatives.

A number of activity-level plans have also been completed in recent years. Six were prepared to address specific resource management issues within the Warner Wetlands ACEC (USDI-BLM 1990e, 1990f, 1990g, 1990h, 1990i, 1990j). These documents are considered part of the existing management direction and are included in the description of Alternative A and other alternatives in this RMP, where appropriate.

Several multiyear noxious weed management plans have been completed (USDI-BLM 1994d, 1995e).

These documents are considered part of the existing management direction and are included in the description of Alternative A and other alternatives in this RMP, where appropriate.

Off-highway vehicle plans have been completed (USDI-BLM undated a, undated b). These documents are considered part of the existing management direction and are included in the description of Alternative A and other alternatives in this RMP, where appropriate.

“Public Land Recreation, A Management Strategy for Special Recreation Management Areas in Oregon and Washington” (USDI-BLM 1988) outlines special management direction for special recreation management areas in Oregon and Washington, including the Warner Wetlands Special Recreation Management Area.

Several wildlife habitat management plans have been completed: “Fort Rock-Silver Lake Habitat Management Plan,” “Paisley Habitat Management Plan,” “North Warner Lakes Habitat Management Plan,” “South Warner Lakes Habitat Management Plan,” “Warner Aquatic Habitat Management Plan,” “High Desert Aquatic Habitat Management Plan,” and “Rosebud/Edmonds Well Habitat Management Plan” (USDI-BLM 1980c, 1980d, 1981a, 1984a, 1984b, 1986a, 1986b, 1993d). These documents are considered part of the existing management direction and are included in the description of Alternative A and other alternatives in this RMP, where appropriate.

One vegetation management plan has been completed for the Black Hills area (USDI-BLM 1981b). This document is considered part of the existing management direction and is included in the description of Alternative A and other alternatives in this RMP, where appropriate.

Numerous allotment management plans have been completed (USDI-BLM undated c, 1975, 1990g, 1994b; USDI-USFWS and USDI-BLM 1998a, 1998b). An existing process is in place for authorizing temporary nonrenewable livestock grazing use (USDI-BLM 1989e). These documents are considered part of the existing management direction and are included in the description of Alternative A and other alternatives in this RMP, where appropriate.

“Non-Renewable Grazing Use,” EA No. OR-010-87-19 (amendment) (USDI-BLM 1989e). This document describes a process used to authorize temporary nonrenewable grazing use in the LRA.

“Beaty Butte and Paisley Desert Herd Management Plans” (USDI-BLM 1977a, 1977b), “Lakeview District Wild Horse Gather Environmental Assessment” (EA No. OR-010-95-10) (USDI-BLM 1994g, 1995c) and associated decisions. These documents direct wild horse management activities within the Beaty Butte and Paisley Herd Management Areas and are considered part of the existing management direction and included in the description of Alternative A and other alternatives in this RMP, where appropriate.

“Juniper Firewood Cutting” (EA No. OR-010-90-14) (USDI-BLM 1991c, 1999d), analyzed the effect of cutting juniper for firewood, poles, and other uses from 10 locations covering about 45,000 acres. The decision allows juniper removal from 6 of the 10 areas analyzed.

“Mining Occupancy in the General Sunstone Area” (EA No. OR-010-98-5), analyzed the impacts of occupancy of mining claims in the sunstone mining area within the Rabbit Basin (USDI-BLM 1998h).

Several mining plans of operations have been prepared (USDI-BLM 1993, 1996e, 1996f). These documents are considered part of the existing management direction and are included in the description of Alternative A and other alternatives in this RMP, where appropriate.

Potential geothermal, oil, and gas leasing within the resource area has been evaluated in several existing documents (USDI-BLM undated, 1976, 1981c). Two existing mining operations occur on the LRA under a plan of operation; one for diatomaceous earth and one for perlite (USDI-BLM 1993c, 1996e, 1996f).

Hazardous material removal from public lands is handled under the “Lakeview District Hazardous Materials Incident Contingency Plan” (USDI-BLM 2001f).

“Hart Mountain National Antelope Refuge Comprehensive Management Plan” (USDI-USFWS 1994a, 1994b) contains the management direction for the adjacent Hart Mountain Refuge and the Guano Creek WSA Cooperative Management Area located on BLM-administered lands. This area and the associated management direction was described in a draft plan amendment/environmental assessment prepared jointly by the USFWS and BLM (1998a, 1998b) and by Congress in the “Oregon Public Lands Transfer and Protection Act” of 1998. The management direction for this area, as outlined in these two plans, legislation, and the 1995 “Interim Management Policy for Lands Under Wilderness Review” (wilderness IMP) (USDI-BLM 1995b), will be considered common to all

alternatives analyzed in this RMP.

The “Recovery Plan for the Native Fishes of the Warner Basin and Alkali Subbasin: Warner Sucker (Threatened) *Catostomus warnerensis*, Hutton Tui Chub (Threatened) *Gilia bicolor* spp., Foskett Speckled Dace (Threatened) *Rhinichthys osculus* spp.” (USDI-USFWS 1998) outlines recovery strategies for three Federally-listed species. This direction will be considered common to all alternatives analyzed in this RMP.

The “Bald Eagle Management Area (BEMA) Plan for the Fremont National Forest” (USDA-FS 1994) provides an interagency strategy for management of bald eagles along the boundary of national forest and BLM lands.

The latest or final versions of biological opinions related to the Warner sucker or conservation agreements/strategies associated with sensitive plants and animals.

Existing and future conservation agreements for special status species. Currently, one agreement has been approved: “Conservation Strategy for *Rorippa columbiae* (Columbia Cress)” (USDI-BLM et al. 1996). Other agreements are under development or could be developed in the future as the need arises. Management in accordance with these agreements prevents a species from being federally listed.

“Greater Sage-Grouse and Sagebrush-Steppe Ecosystems Management Guidelines” (Sage-Grouse Planning Team 2000) outlines interim management guidelines for greater sage-grouse and its habitat to be implemented until replaced by a long-term protective strategy.

The “Western Regional Corridor Study” (Western Utility Group 1993) shows existing, designated, and future potential utility corridors for most western states, including Oregon. The BLM is required to use this study as a reference document when considering land use decisions that may affect existing and/or proposed utility corridors. This study identified one potential east-west corridor (the south corridor) which traverses the LRA south of the Hart Mountain National Antelope Refuge. This particular corridor is currently unoccupied and has been eliminated from consideration as a corridor in both the Lakeview District’s, Klamath Falls RMP and the Southeastern Oregon RMP. Since the corridor is not recognized on either the east or west sides of the LRA, the south corridor will not receive further consideration in this RMP.

“Bonneville Power Administration Right-of-Way Vegetation Management FEIS/ROD” (BPA 2000a, 2000b) evaluates the impacts of vegetation management activities on Bonneville Power Administration rights-of-way crossing Federal lands.

Military uses of BLM-administered lands are authorized under existing laws and regulations. Current uses within the LRA include: a low altitude military operations area utilized by the 142nd Fighter Group of the Oregon Air National Guard (Air National Guard Readiness Center 1993), rescue training operations by the 304th Rescue Squadron (USDA-FS and USDI-BLM 1998) at two sites in northern Lake County, and a withdrawal for the backscatter radar site operated by the Department of the Air Force (1984). Other uses could be proposed in the future and would be considered on a case-by-case basis in accordance with current guidance and memorandums of understanding.

“Rangeland Grasshopper Cooperative Management Program Final Environmental Impact Statement” (USDA-APHIS 1987).

“Site-Specific Environmental Assessment Tiered to the 1987 Final Environmental Impact Statement for Rangeland Grasshopper Cooperative Management Program” (USDA-APHIS 1993) covers the periodic need to control grasshopper outbreaks in various rangeland and agricultural areas. The lead for this type of action rests with the Animal and Plant Health Inspection Service (APHIS), but the BLM does cooperate when treatment involves lands under its administration.

“Wildlife Damage Management in the Roseburg Animal Damage Control District in Southwestern Oregon” (USDA-APHIS 1994): Covers wildlife damage management activities in the LRA. APHIS is the lead agency for this action. The BLM served as a cooperating agency in the preparation of this environmental assessment and decision. The BLM continues to coordinate with APHIS regarding implementation of this program.

“Oregon Wilderness Final Environmental Impact Statement” (USDI-BLM 1989a) and “Record of Decision” (USDI-BLM 1991a) evaluated the impacts of and recommended to Congress designation of certain wilderness areas within the State of Oregon, including 11 areas within the LRA.

“Interim Management Policy and Guidelines for Lands Under Wilderness Review” (USDI-BLM 1995b).

The “National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands” (USDI-BLM 2001e).

“Northwest Area Noxious Weed Control Program Final Environmental Impact Statement” (USDI-BLM 1985).

“Supplement to the Northwest Area Noxious Weed Control Program Final Environmental Impact Statement” (USDI-BLM 1987).

“Vegetation Treatment on BLM Lands in Thirteen Western States Final Environmental Impact Statement” (USDI-BLM 1991b).

“Healthy Rangelands” (USDA-BLM and USDA-FS 1994; USDI-BLM 1995a, 1997a;) and “Standards for Land Health for Lands Administered by the Bureau of Land Management in the States of Oregon and Washington” (USDI-BLM 1998a). In the State of Oregon, several resource advisory councils were established to develop regional standards and guidelines. The resource advisory council established for the part of the State covering the LRA is the Southeastern Oregon Resource Advisory Council. These documents amend current grazing and other land management direction by applying new standards and guidelines. These standards are described in detail in Appendix E-4 of the Draft RMP/EIS.

“National Wildland Fire Policy” directs development of plans that address prescribed burning and wildland fire suppression to meet resource objectives and reincorporate fire as a component in the ecosystem. A resource area fire management plan has been developed to address wildland fire suppression (USDI-BLM 1998e). These documents are considered part of the existing management direction and are included in the description of Alternative A and other alternatives in this RMP, where appropriate.

“Forest Service and Bureau of Land Management Protocol for Addressing Clean Water Act Section 303(d) Listed Waters” (USDA-FS et al. 1999).

ICBEMP was established “to develop and then adopt a scientifically sound, ecosystem-based strategy for managing all U.S. Forest Service (USFS)- or BLM-administered lands within the (interior Columbia) Basin” (USDA-FS 1996a). The ICBEMP analyzed an area of 145 million acres including all of eastern Oregon. As part of the project, a science integration team was directed to “. . . study ecological, economic and social systems; examine current and historical conditions; and evaluate whether outcomes from

current practices and trends would be consistent with long-term maintenance of ecological integrity and ecosystem health . . .” at the basin scale (USDA-FS and USDI-BLM 2000c). Application of this large-scale analysis requires a “step-down” process to bring the findings down to a level where they can be applied within a local BLM management unit. This step-down is accomplished through the subbasin review process (USDA-FS and USDI-BLM 1999). As part of the preparation for the RMP/EIS, the BLM conducted a subbasin review. The subbasin boundaries were based on the U.S. Geological Survey (USGS) 4th field hydrologic unit codes. On average, these 4th field hydrologic unit codes comprised an area of 500,000 to 1,000,000 acres. The Lakeview Subbasin Review area included four subbasins wholly or partially within the LRA: Summer Lake, Lake Abert, Warner Valley, and Guano, comprising an area of approximately 6.5 million acres. Land ownership and administrative responsibilities included private, State of Oregon, USFS, BLM, USFWS, and Department of Defense. The majority of the land in the subbasin review area is administered by BLM. The science integration team identified a number of issues applicable across the Interior Columbia Basin (USDI-BLM 1996h; USDA-FS and USDI-BLM 1996a). The Lakeview subbasin review team reviewed these findings and determined that most of them applied to the area. Appendix A1 of the Draft RMP/EIS contains a summary of this subbasin review process. Those findings applicable to BLM-administered lands in the planning area have been incorporated into the issues or management concerns addressed by this RMP/EIS. Therefore, the RMP/EIS is consistent with the scientific findings.

In December 2000, a final EIS and proposed record of decision was published (USDA-FS and USDI-BLM 2000b, 2000c). Some of the objectives, standards, and guidelines identified in the proposed record of decision were incorporated into the management alternatives in this RMP where applicable. A final decision has not been issued and is unlikely under the current administration. If a final decision is issued in the future, it may amend existing management direction across Oregon.

## **Memorandums of Understanding**

Memorandums of understanding are formal agreements between the BLM, other agencies, Tribal governments, or other parties. A number of existing memorandums of understanding guide management actions within the planning area. It is likely additional memorandums of understanding will be developed during the life of the plan.



1) The LRA adjoins the Surprise Resource Area along the Oregon, California, and Nevada borders. The two offices operate under a memorandum of understanding that provides for the Surprise Field Office to manage most resource programs for a small area in southern Oregon, while the Lakeview District Office manages most resource programs for two small areas in northern California and Nevada. Part of the Twelvemile Creek WSR and a portion of the Rahilly-Gravely proposed ACEC extend into northern California and Nevada. By agreement with the California State Director and the Surprise Field Office Manager, this RMP includes a description and analysis of these lands. However, a final decision whether to designate the WSR and ACEC on those lands will be made by the California State Director when the Surprise Field Office revises its existing land use plan in the near future.

2) Two sites in the planning area are used for military rescue training under a memorandum of understanding between the Lakeview District and the U.S. Air Force Reserve, 304<sup>th</sup> Rescue Operations.

3) Grazing on the Shirk Ranch is addressed in a formal memorandum of understanding with the MC Beaty Butte Grazing Association and is tied to the “Oregon Public Lands Transfer and Protection Act” of 1998.

4) Several memorandums of understanding address management of a few small recreational sites, kiosks, etc.

5) The South Central Oregon Fire Management Partnership is a group that was voluntarily formed in 1995 by a memorandum of understanding to “help alleviate the PM10 smoke problem from residential wood stoves in Lakeview. The memorandum of understanding provides a voluntary smoke management program in the Klamath Lake District and specifically those areas within Lake County which have the greatest potential of impairing the air quality of the Lakeview Nonattainment Area.”

6) A memorandum of understanding is currently being developed to guide the consultation process with the Klamath Tribes.

7) A memorandum of understanding with Hart Mountain National Antelope Refuge establishes that any horses found roaming the refuge are horses that have strayed from the Beaty Butte Herd Management Area and the BLM is responsible for their removal.

## **Consistency with State of Oregon Plans**

Table B-1 shows consistency with Oregon statewide plans.

**Table B-1.—Consistency with Oregon statewide plans**

State plan	Goals, objectives, prescriptions	Consistency of alternatives
<b>Oregon Department of Fish and Wildlife</b>		
“Mule Deer Management Plan” (1990)	Maximize recruitment of mule deer populations and maintain buck ratios at approved levels.	Under Alternatives B, C, and D, forage would be allocated to meet management objective numbers.
	Maintain, enhance, and restore mule deer habitat.	Mule deer habitat would be maintained under Alternatives A, B, and E, and enhancement and restoration would be maximized under Alternatives C and D.
	Enhance consumptive and nonconsumptive recreational uses of the resource.	Public access would be greatest under Alternative B, and dispersed recreation would be emphasized under all alternatives. Watchable Wildlife sites would be established/maintained under all alternatives except Alternative E.
“Oregon’s Elk Management Plan” (1992)	Maximize recruitment into elk populations and maintain bull ratios at management objective levels. Establish management objectives for population size in all herds, and maintain populations at or near those objectives.	Under Alternatives B, C, and D, forage would be allocated to meet management objective numbers.
	Maintain, enhance, and restore elk habitat.	Elk habitat would be maintained under Alternatives A, B, and E, and enhancement and restoration would be maximized under Alternatives C and D.
	Enhance consumptive and nonconsumptive recreational uses of Oregon’s elk resource.	Public access would be greatest under Alternative B. Dispersed recreation would be emphasized under all alternatives. Watchable Wildlife sites would be established and maintained under all alternatives except Alternative E.
<b>Department of Land Conservation and Development</b>		
Statewide planning goals and guidelines	<b>Goal 1: Citizen Involvement</b> —To develop a citizen involvement program that ensures the opportunity for citizens to be involved in all phases of the planning process.	FLPMA requires BLM to provide for public involvement in developing land use plans. This was (will be) done during public scoping, public review of the planning criteria, public review of the Draft RMP/EIS, and public review of the Lakeview Proposed RMP/Final EIS.
	<b>Goal 2: Land Use Planning</b> —To establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions.	This goal is similar to that of the BLM planning process. The BLM process also mandates collaboration with state and local governments and consideration state and local land use plans.

State plan	Goals, objectives, prescriptions	Consistency of alternatives
	<b>Goal 3: Agricultural Lands</b> —To preserve and maintain agricultural lands.	The vast majority of the public lands in the planning area are not suitable for intensive agriculture. All the alternatives, except Alternative E, provide for continued use of the public land for livestock grazing, except for some unallotted or excluded areas. Land sold or exchanged in Zones 2 or 3 could be converted into agricultural development or other uses.
	<b>Goal 4: Forest Lands</b> —To conserve forest lands as forest land and woodlands.	Forests on the planning area would not be allocated for planned commercial development under any alternative, but would be managed to preserve forest integrity, wildlife habitat, and scenic and scientific values. Old growth juniper woodland would be maintained, while other juniper woodland would be open to commercial use including firewood, posts, poles, and biomass fuel for cogeneration plants under all alternatives except Alternative E.
	<b>Goal 5: Open Spaces, Scenic and Historic Areas, and Natural Resources</b> —To protect natural resources and conserve scenic and historic areas and open spaces.	This is incorporated into all the alternatives; however, there are some tradeoffs across the various alternatives. Management and protection of biological resources would be greatest under Alternative C. Lack of management under Alternative E could have a detrimental effect on all resources. Sodium and energy minerals and resources would be available for leasing to various degrees in all alternatives except Alternative E. Locatable (hardrock) minerals would continue to be available to various degrees in all alternatives except Alternative E. Salable or free-use common mineral materials would continue to be available to various degrees in all alternatives except Alternative E. Visual resources would be protected or enhanced based on updated inventories. Cultural and historic resources would be protected or enhanced under all alternatives.
	<b>Goal 6: Air, Water, and Land Resources Quality</b> —To maintain and improve the quality of the air, water, and land resources of the State.	This is incorporated into all the alternatives; however, there are some tradeoffs across the various alternatives. The greatest benefit to water resources would be accomplished under Alternatives C and D. BLM will develop water quality restoration plans which will be incorporated into water quality management plans developed by the State.

State plan	Goals, objectives, prescriptions	Consistency of alternatives
	<p><b>Goal 7: Areas Subject to Natural Disasters and Hazards</b>—To protect life and property from natural disasters and hazards.</p> <p><b>Goal 8: Recreational Needs</b>—To satisfy the recreational needs of the citizens and visitors of the State, and where appropriate, to provide for the siting of necessary recreational facilities, including destinations resorts.</p> <p><b>Goal 9: Economy of the State</b>—To provide adequate opportunities throughout the State for a variety of economic activities vital to the health, welfare, and prosperity of Oregon's citizens.</p> <p><b>Goal 11: Public Facilities and Services</b>—To plan and develop a timely, orderly, and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.</p> <p><b>Goal 12: Transportation</b>—To provide and encourage a safe, convenient, and economical transportation system.</p> <p><b>Goal 13: To Conserve Energy</b>—</p>	<p>Natural hazard areas, particularly floodplains and areas with highly erosive soils, have been identified. All the alternatives provide for appropriate management of natural hazards. BLM-authorized developments within natural hazard areas would be minimal under each alternative, with project construction engineering reflecting local conditions.</p> <p>All the alternatives emphasize dispersed recreation with some minimal development under Alternatives B and D. OHV recreation opportunities would be maximized under Alternatives B and D. All alternatives, except Alternative E, would be consistent with the "State Comprehensive Outdoor Recreation Plan." No destination resort opportunities were identified.</p> <p>Economic use of the public lands is provided in all the alternatives except Alternative E. Economic production would be maximized under Alternative B.</p> <p>Under all alternatives, public lands could be available for rural or urban development through a BLM land sale or exchange.</p> <p>All the alternatives except Alternative E provide for the continuation of existing rights-of-way and the placement of new ones for powerlines, pipelines, roads, communication facilities, and other public or private purposes. The use of public lands for such purposes would be greatest under Alternative B and least under Alternative C.</p> <p>Conservation and efficient use of energy sources are objectives in all BLM activities. Sale and harvest of minor forest products (such as posts, poles, and firewood) from woodlands would be permitted in most areas. Electrical generating facilities such as geothermal plants, cogeneration plants, or wind farms, would be considered under all alternatives except Alternative E.</p>
<b>Division of State Lands</b>		
Rangelands	Rangelands will be managed to ensure forage yields for livestock grazing consistent with best management practices. Grazing levels may be adjusted, in consultation with lessees, on both trust and nontrust lands to protect rangeland health and the long-term value of the land.	All alternatives except Alternative E are consistent with this prescription.



State plan	Goals, objectives, prescriptions	Consistency of alternatives
	Rangelands will be managed to prevent human-induced loss of rangeland health. Work with lessees to continue to implement rangeland practices that maintain, achieve, or restore healthy functioning ecosystems and maintain, restore, or enhance water quality.	All alternatives except Alternative E are consistent with this prescription. Rangeland health would be maximized under Alternative C.
Special interest lands	Special interest lands will be managed primarily to ensure the protection of unique scenic, wildlife, cultural, natural, or recreation values. Revenue generation activities will generally be permitted only if they do not adversely impact these values.	Management of special designations such as WSA's, WSR's, ACEC's, or National Register of Historic Places would be consistent with this prescription. However, there are no known State special interest lands in the planning area.
Minerals	Land owned by the land board will be open to mineral exploration and development subject to existing laws, regulations, and management plans. Land will be open to mineral activity unless the proposed use (1) would have significant adverse and nonmitigatable impacts on watershed integrity, and natural, cultural, and archeological features, (2) be located within a WSR, State scenic waterway, or similarly designated area, and (3) the proposal would not be permitted under the appropriate management plan.	Access to State land for mineral exploration and development would be available under all alternatives. Exploration and development of adjacent public land could be constrained or prohibited depending on the alternative and management of the adjacent parcel.
<b>State Land Board</b>		
<u>"Oregon Natural Heritage Plan" (1998)</u>	<u>Conserve the full range of Oregon's native plants, animals, and ecosystems.</u>	<u>The alternatives consider opportunities to designate RNA's which would fill important cell needs in the Natural Heritage Data Base.</u>
<b>Governor's Eastside Forest Health Panel</b>		
<u>"An 11-Point Strategy for Restoring Eastern Oregon Forests, Watersheds, and Communities" (2001)</u>	<u>Objectives of the strategy are to restore ecosystem health to eastern Oregon forests, with good water quality and quantity a top priority. Key provisions that may apply to the planning area include considering the needs of dependent communities, protecting old growth stands, reintroduction of fire, understory thinning, stream rehabilitation, protection of ecologically sensitive areas, and suppression of noxious weeds.</u>	<u>This strategy, originally developed in 1997, was adopted by the Regional Forester and BLM's Oregon State Director in 2001 and generally is consistent with the need to conduct restoration actions under several of the alternatives analyzed.</u>

State plan	Goals, objectives, prescriptions	Consistency of alternatives
<b><u>Oregon Department of Parks and Recreation</u></b>		
<u>“Oregon Outback Scenic Plan” (unknown 1997a, 1997b; Sea Reach Ltd. 2001)</u>	<u>Manage and market the scenic and recreational values associated with the State Highway 31/395 corridor. Describes construction of new interpretive signs, rest stop facilities, and promotion of area recreational opportunities.</u>	<u>This corridor runs along the southwest border of the planning area (Map R-8). Nothing in this State plan is inconsistent with the VRM or recreational management direction within the Proposed RMP.</u>
<b><u>Oregon Department of Environmental Quality</u></b>		
<u>“State of Oregon Clean Air Implementation Plan” (2002; Oregon Administrative Rules 340-200-0040)</u>	<u>Contains control strategies, rules, and standards to comply with the Federal “Clean Air Act.”</u>	<u>Alternatives A–D strive to control and minimize the impacts of smoke by conducting prescribed burns.</u>
<u>“Oregon Smoke Management Plan” (1987; Oregon Administrative Rules 629-043-0043)</u>	<u>To prevent smoke from burning forest lands from being carried to or accumulating in areas sensitive to smoke. To conform with state/Federal air quality requirements and to reduce emissions.</u>	<u>Alternatives A–D strive to control and minimize the impacts of smoke by conducting prescribed burns.</u>

# Appendix C — Soils and Ecological Site Inventory

## C1: Soils

Table C1-1a shows general soil map units on BLM-administered land in southern Lake County. Table C1-2 lists general or broadly occurring soils with distinctive patterns of relief, drainage, climate, and vegetation. The general soils map (Map S-1) and table can be used to compare the relative suitability of areas for various land uses. The general information is based on field transects and samples of the published “Soil Survey of Lake County, Oregon, Southern Part” (USDA-NRCS 2000), the Harney County, Oregon, survey, under review (USDA-NRCS unpublished), and the ongoing survey of north Lake County.

Table C1-1a.—General soil map units of BLM-administered land in southern Lake County

Soil group description	Map unit number and name	Description
Dominant nonsaline and nonsodic soils on alluvial flats, low lake terraces, lake shorelines, and flood plains in warm basins	2. Ozamis-Crump	Seasonally ponded, very poorly drained and poorly drained soils; on alluvial flats
	3. Lakeview-Goose Lake	Occasionally flooded, and rarely flooded and seasonally ponded, poorly drained and moderately well drained soils; on flood plains and low lake terraces
Playas and saline sodic soils on alluvial flats and low lake terraces in warm basins	4. Playas	Poorly drained, very strongly alkaline, barren areas that receive 8 to 10 inches of precipitation; on alluvial flats
	5. Reese-Mesman-Kewake	Poorly drained, well drained, and excessively drained, very strongly alkaline to moderately alkaline soils that receive 8 to 10 inches of precipitation; on alluvial flats and low lake terraces
Soils on lake terraces and flood plains in cool basins	7. Mudpot-Spangenburg	Poorly drained and well drained soils; on lake terraces
Soils on middle and high lake terraces, wave-cut benches, and fans in warm basins	9. Drews	Very deep, well drained soils that receive 14 to 18 inches of precipitation; on middle lake terraces
	10. Lasere-Salisbury-Oxwall	Moderately deep, and moderately deep and shallow to a hardpan, well drained soils that receive 14 to 18 inches of precipitation; on high lake terraces and wave-cut benches
	11. McConnel-Wildhill	Very deep and moderately deep, somewhat excessively drained and well drained soils that receive 8 to 10 inches of precipitation; on high lake terraces and fans

Soil group description	Map unit number and name	Description
Soils on grass- and shrub-covered tablelands	12. Ratto-Brace	Soils that are shallow and moderately deep to a hardpan, receive 8 to 12 inches of precipitation, and support dominantly Wyoming big sagebrush; on tablelands
	13. Freznik-Floke-Anawalt	Moderately deep and shallow soils that receive 10 to 12 inches of precipitation and support dominantly low sagebrush; on tablelands
	14. Carryback-Hart	Moderately deep and deep soils that receive 12 to 16 inches of precipitation and support dominantly low sagebrush; on tablelands
	15. Lorella-Chewaucan-Rock Outcrop	Rock outcrop, and shallow and deep soils that receive 10 to 14 inches of precipitation and support dominantly Wyoming big sagebrush; on warm hills and lake terraces
	16. Felcher-Rock Outcrop-Riddleranch	Rock outcrop, and moderately deep soils that receive 8 to 12 inches of precipitation and support dominantly Wyoming big sagebrush; on warm and cool side slopes of mountains
	17. Ninemile-Newlands	Shallow and deep soils that receive 12 to 16 inches of precipitation and support dominantly low sagebrush and mountain big sagebrush; on cool benches and foot slopes of tablelands and mountains
	18. Harcany-Fitzwater	Very deep soils that receive 12 to 16 inches of precipitation and support dominantly mountain big sagebrush; on cool benches and side slopes of mountains
	19. Booth-Bullump-Nuss	Shallow, moderately deep, and very deep soils that receive 14 to 18 inches of precipitation and support low sagebrush and mountain big sagebrush; on cool benches and side slopes of hills and mountains

Table C1-2.—General soil complexes in the planning area

Soil name	Location	Drainage	Depth	Precipitation (inches)	Vegetation
<b>Warm soils on alluvial flats, low lake terraces, lake shorelines, and floodplains in basin landscapes</b>					
Fluvaquents-Tandy	Lake shorelines and adjacent alluvial flats	Poorly and somewhat poorly with seasonal ponding or frequent flooding	Very deep	14–16	Water-tolerant grasses, forbs, rushes, and sedges
Ozamis-Crump	Alluvial flats	Very poorly and poorly with frequent ponding	Very deep	8–10	Rushes, sedges, water-tolerant grasses, and forbs
Lakeview-Goose Lake	Floodplains and low lake terraces	Poorly, moderately, and well with occasional flooding	Very deep	8–18	Grasses, shrubs, and forbs
<b>Warm saline and sodic soils on playas, alluvial flats, and low lake terraces in basins landscapes</b>					
Playas	Alluvial flats	Poorly with seasonal ponding	Very deep	8–10	Barren
Reese-Mesman-Kewake	Alluvial flats and low lake terraces	Poorly, well, and excessively	Very deep	8–10	Salt-tolerant grasses, shrubs, and forbs
Thunderegg-Stockdrive	Low lake terraces	Poorly and somewhat poorly	Very deep	14–18	Water-tolerant grasses, forbs, rushes, and sedges
<b>Warm soils on middle and high lake terraces, wave-cut benches, and fans in basin landscapes</b>					
Drews	Middle lake terraces	Well	Very deep	14–18	Shrubs, grasses, and forbs
Lasere-Salisbury-Oxwall	High lake terraces, wave cut benches	Well	Moderately and shallow to a hardpan	14–18	Shrubs, grasses, and forbs
McConnel-Wildhill	High lake terraces and fans	Somewhat excessively and well	Very deep and moderately deep	8–10	Shrubs, grasses, and forbs

Soil name	Location	Drainage	Depth	Precipitation (inches)	Vegetation
<b>Cool soils on lake terraces and floodplains in basin landscapes</b>					
Mudpot-Spangenburg	Lake terraces	Poorly and well with seasonal ponding	Very deep	8–10	Water-tolerant grasses, shrubs, and forbs
Welch-Degarmo	Floodplains	Poorly	Very deep	12–16	Water-tolerant grasses, forbs, rushes, and sedges
<b>Cool soils on grass and shrub covered tablelands</b>					
Ratto-Brace	Tablelands	Well	Shallow and moderately deep to a hardpan	8–12	Sagebrush shrubs, grasses, and forbs
Freznik-Floke-Anawalt	Tablelands	Well	Moderately deep and shallow	10–12	Low sagebrush shrubs, grasses, and forbs
Carryback-Hart	Tablelands	Well	Moderately deep and deep	12–16	Low sagebrush shrubs, grasses, and forbs
Raz-Brace	Tablelands	Well	Shallow to cemented pan and moderately deep to hardpan	8–12	Sagebrush shrubs, grasses, and forbs
Merlin-Observation-Lambring	Tablelands	Well	Very shallow to shallow	10–20	Low sagebrush shrubs, grasses, and forbs
<b>Cool soils on grass and shrub covered hills, mountains, and lake terraces among rock outcrop</b>					
Lorella-Chewaucan-Rock Outcrop	Warm hills and lake terraces	Well	Shallow and deep	10–14	Sagebrush shrubs, grasses, and forbs
Felcher-Rock Outcrop-Riddleranch	Warm and cool side slopes of mountains	Well	Moderately deep	8–12	Sagebrush shrubs, grasses, and forbs

Soil name	Location	Drainage	Depth	Precipitation (inches)	Vegetation
Ninemile-Newlands	On cool benches, foot slopes of tablelands, and mountains	Well	Shallow and deep	12–16	Low to mountain sagebrush shrubs, grasses, and forbs
Harcany-Fitzwater	On cool benches and side slopes of mountains	Well	Very deep	12–16	Mountain sagebrush shrubs, grasses, and forbs
Booth-Bullump-Nuss	On cool benches, side slopes of hills, and mountains	Well	Shallow, moderately deep, and very deep	14–18	Low to mountain sagebrush shrubs, grasses, and forbs
<b>Cold soils on forested mountains, plateaus, and hills</b>					
Winterim-Royst	Hills, plateaus, and mountain sides	Well	Deep and moderately deep	14–32	Ponderosa pine, western juniper, shrubs, grasses, and forbs
Winterim-Mound-Polander	Mountain sides and plateaus	Well	Deep	18–32	Ponderosa pine, shrubs, grasses, and forbs
Woodchopper-Rogger	Plateaus and mountains	well	Very deep and moderately deep	28–32	Ponderosa pine, white fir, shrubs, grasses, and forbs
Twelvemile-Xerolls	Mountains	Somewhat excessively	Very deep to shallow	18–38	Ponderosa pine to lodgepole pine conifers, shrubs, grasses, and forbs



# Appendix D — Best Management Practices

## Introduction

Best management practices (BMP's) are those land and resource management techniques designed to maximize beneficial results and minimize negative impacts of management actions. Interdisciplinary site-specific analysis is necessary to determine which management practices would be necessary to meet specific goals. BMP's described in this appendix are designed to assist in achieving the objectives for maintaining or improving water quality, soil productivity, and the protection of watershed resources. These guidelines will apply, where appropriate, to all use authorizations, including BLM-initiated projects. Modifications may be necessary on a site-specific basis to minimize the potential for negative impacts. Each of the following BMP's are a part of the coordinated development of this plan and may be updated as new information becomes available. Applicants can suggest alternate conditions that could accomplish the same result.

BMP's are selected and implemented as necessary, based on site-specific conditions, to meet water, soil, and watershed objectives for specific management actions. This document does not provide an exhaustive list of BMP's. Additional BMP's may be identified during an interdisciplinary process when evaluating site-specific management actions. Implementation and effectiveness of BMP's need to be monitored to determine whether the practices are achieving water, soil, and other watershed resource objectives and accomplishing desired goals. Adjustments will be made as necessary to ensure objectives are met and as needed to conform with changes in BLM regulations, policy, direction, or new scientific information.

These BMP's are a compilation of existing policies and guidelines and commonly employed practices to minimize water quality degradation from nonpoint sources, to minimize the loss of soil productivity, and to provide guidelines for aesthetic conditions within watersheds from surface disturbing activities.

BMP's are considered one of the primary mechanisms to achieve Oregon water quality standards and reduce impacts from nonpoint source pollution. Nonpoint sources of pollution result from natural causes, human actions, and the interactions between natural events and conditions associated with human use of the land and its resources. Nonpoint source pollution is caused by diffuse sources rather than from a discharge at a specific, single-source location. Such pollution results

in alteration of the chemical, physical, and biological integrity of water.

BMP's are defined as methods, measures, or practices selected on the basis of site-specific conditions to ensure that water quality will be maintained at its highest practicable level. BMP's include, but are not limited to, structural and nonstructural controls, operations, and maintenance procedures. BMP's can be applied before, during, and after pollution-producing activities to reduce or eliminate the introduction of pollutants into receiving waters (40 CFR 130.2(m), Environmental Protection Agency Water Quality Standards Regulation).

BMP's are identified as part of the NEPA process, with interdisciplinary involvement. Because the control of nonpoint sources of pollution is an ongoing process, continual refinement of best management practice design is necessary. This process can be described in five steps which are: (1) selection of design of a specific best management practice; (2) application of the best management practice; (3) monitoring; (4) evaluation; and (5) feedback. Data gathered through monitoring is evaluated and is used to identify changes needed in best management practice design, application, or in the monitoring program.

## Road Design and Maintenance

1) Design roads to minimize total disturbance, to conform with topography, and to minimize disruption of natural drainage patterns.

2) Base road design criteria and standards on road management objectives such as traffic requirements of the proposed activity and the overall transportation plan, economic analysis, safety requirements, resource objectives, and minimizing damage to the environment.

3) Locate roads on stable terrain such as ridgetops, natural benches, and flatter transitional slopes near ridges and valley bottoms and moderate sideslopes and away from slumps, slide prone areas, concave slopes, clay beds, and where rock layers dip parallel to the slope. Locate roads on well-drained soil types; avoid wet areas.

4) Construct cut and fill slopes to be approximately 3(h):1(v) or flatter where feasible. Locate roads to minimize heights of cutbanks. Avoid high, steeply-sloping cutbanks in highly-fractured bedrock.

- 5) Avoid head walls, midslope locations on steep, unstable slopes, fragile soils, seeps, old landslides, sideslopes in excess of 70 percent, and areas where the geologic bedding planes or weathering surfaces are inclined with the slope. Implement extra mitigation measures when these areas can not be avoided.
- 6) Construct roads for surface drainage by using outslopes, crowns, grade changes, drain dips, waterbars and/or insloping to ditches as appropriate.
- 7) Sloping the road base to the outside edge for surface drainage is normally recommended for local spurs or minor collector roads where low volume traffic and lower traffic speeds are anticipated. This is also recommended in situations where long intervals between maintenance will occur and where minimum excavation is wanted. Out-sloping is not recommended on steep slopes. Sloping the road base to the inside edge is an acceptable practice on roads with steep sideslopes and where the underlying soil formation is very rocky and not subject to appreciable erosion or failure.
- 8) Crown and ditching is recommended for arterial and collector roads where traffic volume, speed, intensity and user comfort are considerations. Recommended gradients range from 0 to 15 percent where crown and ditching may be applied, as long as adequate drainage away from the road surface and ditch lines is maintained.
- 9) Minimize excavation when constructing roads through the use of balanced earthwork, narrowing road widths, and end hauling where sideslopes are between 50 and 70 percent.
- 10) If possible, construct roads when soils are dry and not frozen. When soils or road surfaces become saturated to a depth of 3 inches, BLM-authorized activities should be limited or cease unless otherwise approved by the authorized officer.
- 11) Consider improving inadequately surfaced roads that are to be left open to public traffic during wet weather with gravel or pavement to minimize sediment production and maximize safety.
- 12) Retain vegetation on cut slopes unless it poses a safety hazard or restricts maintenance activities. Roadside brushing of vegetation should be done in a way that prevents disturbance to root systems and visual intrusions (i.e., avoid using excavators for brushing).
- 13) Retain adequate vegetation between roads and streams to filter runoff caused by roads.
- 14) Avoid riparian/wetland areas where feasible; locate in these areas only if the roads do not interfere with the attainment of proper functioning condition and riparian management objectives.
- 15) Minimize the number of unimproved stream crossings. When a culvert or bridge is not feasible, locate drive-through (low water crossings) on stable rock portions of the drainage channel. Harden crossings with the addition of rock and gravel if necessary. Use angular rock if available.
- 16) Locate roads and limit activities of mechanized equipment within stream channels to minimize their influence on riparian areas. When stream crossing is necessary, design the approach and crossing perpendicular to the channel where practical. Locate the crossing where the channel is well-defined, unobstructed, and straight.
- 17) Avoid placing fill material in floodplain unless the material is large enough to remain in place during flood events.
- 18) Use drainage dips instead of culverts on roads where gradients would not present a safety issue. Locate drainage dips in such a way so water would not accumulate or where outside berms prevent drainage from the roadway. Locate and design drainage dips immediately upgrade of stream crossings and provide buffer areas and catchment basins to prevent sediment from entering the stream.
- 19) Construct catchment basins, brush windrows, and culverts in a way to minimize sediment transport from road surfaces to stream channels. Install culverts in natural drainage channels in a way to conform with the natural streambed gradients with outlets that discharge onto rocky or hardened protected areas.
- 20) Design and locate water crossing structures in natural drainage channels to accommodate adequate fish passage, provide for minimum impacts to water quality, and capable of handling a 100-year event for runoff and floodwaters.
- 21) Use culverts that pass, at a minimum, a 50-year storm event and/or have a minimum diameter of 24 inches for permanent stream crossings and a minimum diameter of 18 inches for road crossdrains.
- 22) Replace undersized culverts and repair or replace

damaged culverts and downspouts. Provide energy dissipators at culvert outlets or drainage dips.

23) Locate culverts or drainage dips in such a manner as to avoid discharge onto unstable terrain such as head walls or slumps. Provide adequate spacing to avoid accumulation of water in ditches or road surfaces. Culverts should be placed on solid ground to avoid road failures.

24) Proper sized aggregate and riprap should be used during culvert construction. Place riprap at culvert entrance to streamline water flow and reduce erosion.

25) Establish adapted vegetation on all cuts and fill immediately following road construction and maintenance.

26) Remove berms from the downslope side of roads, consistent with safety considerations.

27) Leave abandoned roads in a condition that provides adequate drainage without further maintenance. Close abandoned roads to traffic. Physically obstruct the road with gates, large berms, trenches, logs, stumps, or rock boulders as necessary to accomplish permanent closure.

28) Abandon and rehabilitate roads no longer needed. Leave these roads in a condition that provides adequate drainage. Remove culverts.

29) When plowing snow for winter use of roads, provide breaks in snow berms to allow for road drainage. Avoid plowing snow into streams. Plow snow only on existing roads.

30) Maintenance should be performed to conserve existing surface material, retain the original crowned or out-sloped, self-draining cross section, prevent or remove rutting berms (except those designed for slope protection) and other irregularities that retard normal surface runoff. Avoid wasting loose ditch or surface material over the shoulder where it can cause stream sedimentation or weaken slump-prone areas. Avoid undercutting back slopes.

31) Do not disturb the toe of cut slopes while pulling ditches or grading roads. Avoid sidecasting road material into streams.

32) Grade roads only as necessary. Maintain drain dips, waterbars, road crown, in-sloping and out-sloping, as appropriate, during road maintenance.

33) Maintain roads in special management areas (SMA's) according to SMA guidance. Generally, retain roads within existing disturbed areas and sidecast material away from the SMA.

34) When landslides occur, save all soil and material usable for reclamation or stockpile for future reclamation needs. Avoid side casting of slide material where it can damage, overload, and saturate embankments, or flow into down-slope drainage courses. Reestablish vegetation as needed in areas where vegetation has been destroyed due to side casting.

35) Strip and stockpile topsoil ahead of construction of new roads, if feasible. Reapply soil to cut and fill slopes prior to revegetation.

### Surface-Disturbing Activities

1) Special design and reclamation measures may be required to protect scenic and natural landscape values. This may include transplanting trees and shrubs, mulching and fertilizing disturbed areas, use of low profile permanent facilities, and painting to minimize visual contrasts. Surface-disturbing activities may be moved to avoid sensitive areas or to reduce the visual effects of the proposal.

2) Above ground facilities requiring painting should be designed to blend in with the surrounding environment.

3) Disturbed areas should be contoured to blend with the natural topography. Blending is defined as reducing form, line, and color contrast associated with the surface disturbance. Disturbance in visually sensitive areas should be contoured to match the original topography, where matching is defined as reproducing the original topography and eliminating form, line, and color caused by the disturbance as much as possible.

4) Reclamation should be implemented concurrent with construction and site operations to the fullest extent possible. Final reclamation actions shall be initiated within 6 months of the termination of operations unless otherwise approved in writing by the authorized officer.

5) Fill material should be pushed into cut areas and up over back slopes. Depressions should not be left that would trap water or form ponds.

### Rights-of-Way and Utility Corridors

1) Rights-of-way and utility corridors should use areas adjoining or adjacent to previously disturbed areas

whenever possible, rather than traverse undisturbed communities.

2) Waterbars or dikes should be constructed on all of the rights-of-way and utility corridors, and across the full width of the disturbed area, as directed by the authorized officer.

3) Disturbed areas within road rights-of-way and utility corridors should be stabilized by vegetation practices designed to hold soil in place and minimize erosion. Vegetation cover should be reestablished to increase infiltration and provide additional protection from erosion.

4) Sediment barriers should be constructed when needed to slow runoff, allow deposition of sediment, and prevent transport from the site. Straining or filtration mechanisms may also be employed for the removal of sediment from runoff.

### **Forest Management**

1) Design harvest units and forest health treatments to blend with natural terrain.

2) Consider clearcutting only where it is silviculturally essential to accomplish site-specific objectives. Areas with fragile watershed conditions or high scenic values should not be clearcut.

3) When soils or road surfaces become saturated to a depth of 3 inches, BLM-authorized activities, such as log yarding and hauling, should be limited or cease unless otherwise approved by the authorized officer.

4) Scatter unmerchantable material (tops, limbs, etc.) in cutting units and treatment areas, consistent with fuel loading limitations.

5) Ground-yarding systems are not recommended on slopes that are of 30 percent or greater.

6) Utilize designated skid trails and haul roads, where feasible, when ground-yarding timber harvest operations.

7) Locate skid trails on upper slope positions, as far as possible from surface water. Avoid skidding across drainage bottoms or creating conditions that concentrate and channelize surface flow.

8) Use directional felling, when applicable, to minimize skidding distance and locate skid trails as far as possible from sensitive areas.

9) Install waterbars and apply native seed, when available, to skid trails and landings prior to temporary seasonal closures and following harvest operations. Consider ripping or subsoiling on skid trails and abandoned haul roads to reduce compaction where soil and slope conditions permit.

10) When ground- or cable-yarding, logs should be fully, or at least have the lead end, suspended.

11) Locate landings away from surface water. Design landings to minimize disturbance consistent with safety and efficiency of operation.

12) Use low pressure grapple equipment, if possible, when piling slash.

13) Conduct forested land treatments when soil surfaces are either frozen, dry, or have adequate snowpack to minimize impacts to soil and water resources.

### **Fire Suppression**

1) Minimize surface disturbances and avoid the use of heavy earth-moving equipment where possible, on all fire suppression and rehabilitation activities, including mop-up, except where high value resources (including lives and property), are being protected.

2) Install waterbars and seed all constructed firelines with native or adapted nonnative species as appropriate.

3) Avoid dropping fire retardant detrimental to aquatic communities on streams, lakes, ponds and in riparian/wetland areas.

4) The location and construction of handlines should result in minimal surface disturbance while effectively controlling the fire. Hand crews should locate lines to take full advantage of existing land features that represent natural fire barriers. Whenever possible, handlines should follow the contour of the slope to protect the soil, provide sufficient residual vegetation to capture and retain sediment, and maintain site productivity.

5) Suppression in riparian areas should be by hand crews when possible.

### **Prescribed Burning**

1) To protect soil productivity, burning should be conducted, if possible, under conditions when a low-intensity burn can accomplish stated objectives. Burn

only when conditions of organic surface or duff layer have adequate moisture to minimize effects to the physical and chemical properties of the soil. When possible, maximize the retention of the organic surface or duff layer.

2) Slash should not be piled and burned within riparian/wetland areas. If riparian/wetland areas are within or adjacent to the prescribed burn unit, piles should be firelined or scattered prior to burning.

3) When preparing the unit for burning, avoid piling concentrations of large logs and stumps; pile small material (3 to 8 inches diameter). Slash piles should be burned when soil and duff moisture are adequate to reduce potential damage to soil resources.

### **Livestock Grazing Management**

Rangeland projects and improvements are constructed as a portion of adaptive management to reduce resource management conflicts and to achieve multiple use management objectives. They have been standardized over time to mitigate impacts and will be adhered to in the construction and maintenance of rangeland projects within the planning area.

Grazing schedules are developed and adjusted through the adaptive management process on an allotment-specific basis. This is to mitigate impacts to resource values and progress toward multiple use management objectives and sustainability of desirable values.

### **Mining**

1) Reclaim all disturbed surface areas promptly, performing concurrent reclamation as necessary, and minimize the total amount of all surface disturbance.

2) All surface soil should be stripped prior to conducting operations, stockpiled, and reapplied during reclamation, regardless of soil quality. Minimize the length of time soil remains in stockpiles and the depth or thickness of stockpiles. When slopes on topsoil stockpiles exceed 5 percent, a berm or trench should be constructed below the stockpile to prevent sediment transport offsite.

3) Strip and separate soil surface horizons where feasible and reapply in proper sequence during reclamation.

4) Locate soil stockpiles and waste rock disposal areas away from surface water to minimize offsite drainage effects.

5) Establish vegetation cover on soil stockpiles that are to be in place longer than 1 year.

6) Construct and rehabilitate temporary roads to minimize total surface disturbance, consistent with intended use.

7) Consider temporary measures such as silt fences, straw bales, or mulching to trap sediment in sensitive areas until reclaimed areas are stabilized with vegetation.

8) Reshape to the approximate original contour all areas to be permanently reclaimed, providing for proper surface drainage.

9) Leave reclaimed surfaces in a roughened condition following soil application.

10) Complete reclamation and seeding during the fall if possible.

### **Noxious Weed Management**

1) All contractors and land-use operators moving surface-disturbing equipment in or out of weed-infested areas should clean their equipment before and after use on public land.

2) Control weeds annually in areas frequently disturbed such as gravel pits, recreation sites, road sides, livestock concentration areas.

3) Consider livestock quarantine, removal, or timing limitations in weed-infested areas.

4) All seed, hay, straw, mulch, or other vegetation material transported and used on public land weed-free zones for site stability, rehabilitation, or project facilitation should be certified by a qualified Federal, state or county officer as free of noxious weeds and noxious weed seed. All baled feed, pelletized feed, and grain transported into weed-free zones and used to feed livestock should also be certified as free of noxious weed seed.

5) It is recommended that all vehicles, including off-road and all-terrain, traveling in or out of weed-infested areas should clean their equipment before and after use on public land.

### **Developed Recreation**

1) Construct recreation sites and provide appropriate sanitation facilities to minimize impacts to resource

values, public health and safety, and minimize user conflicts of approved activities and access within an area as appropriate.

2) Minimize impacts to resource values or to enhance a recreational setting and recreation experience. Harden site and locations subject to prolonged/repetitive concentrated recreational uses with selective placement of gravel or other porous materials and allow for dust abatement, paving, and engineered road construction.

3) Use public education and/or physical barriers (such as rocks, posts, vegetation) to direct or preclude uses and to minimize impacts to resource values and the quality of recreation experience.

4) As appropriate, employ limitations of specific activities to avoid or correct adverse impacts to resource values, public safety issues, and/or conflicts between recreational uses.

5) Employ land use ethics programs and techniques such as Leave No Trace and Tread Lightly. Use outreach efforts of such programs to lessen needs to implement more stringent regulatory measures to obtain resource protection and a quality recreation experience

# Appendix E — Livestock Grazing

## E1: Allotment Management Summaries

The following summaries provide multiple use information for each allotment in the resource area. Information is organized under (1) Allotment Identification, (2) Grazing Administration, (3) Identified Resources Conflicts/Concerns and Management Direction.

**Allotment Identification**—This section identifies each allotment by name and allotment number. The Selective Management Category (M, I, C) is identified and acreage within the allotment is provided.

**Grazing Administration**—This section provides basic information on grazing license and other forage demands within the allotment including active preference, suspended nonuse, total preference, exchange of use, and permitted use. *Note:* Blanks under acres or AUM's (animal unit months) indicate the value of 0.

**Identified Resources Conflicts/Concerns and Management Direction**—This section presents the major resource conflicts or concerns that have been identified in each allotment through public input and interdisciplinary team collaborations. For each conflict/concern identified, management direction has been developed. This section forms the basis for establishing or revising allotment management plans during the implementation of the RMP. This section also forms the basis for the conveyance of other resource values into the allotment monitoring, assessment, and evaluation process.

*Common to all allotments:* Since the status of microbiotic crusts is unknown in most allotments, monitoring and research sites would be developed for presence and distribution.

The BLM has trust responsibility of protecting identified cultural plants and communities for Tribal uses; surveys, inventories, and discussions with Tribal members is ongoing and requires analysis related to grazing impacts and range projects. Several ACEC's are being proposed for use by Tribal peoples and these areas will be extensively surveyed: High Lakes, Hawksie-Walksie, and Rahilly-Gravelly proposed ACEC's.

A survey is required for any proposed range projects in areas where no previous survey has been conducted in order to protect possible special

status plant species/habitats from impact from BLM-authorized actions. In areas where Bureau sensitive plants are found, monitoring should be established to determine effects of livestock grazing on those populations and habitats (see Table 2-9, Draft RMP/EIS).

If not mentioned otherwise, no special status plants or animals have been found or are suspected in the allotment.

An alphabetized list of allotments with corresponding allotment numbers has been added to help the reader.

### List of Allotment Names

Abert Rim (00437)  
 Abert Seeding (00522)  
 Alkali Warner (01001)  
 Arrow Gap (00708)  
 Barry (01308)  
 Bear Creek (00703)  
 Beasley Lake (00903)  
 Beaty Butte Common (00600)  
 Becraft (01300)  
 Blue Creek Seeding (00200)  
 Bridge Well Seeding (00712)  
 Briggs Garden (00415)  
 Buck Creek-Bridge Creek (00702)  
 Burro Springs (00213)  
 Button Springs (00909)  
 Cahill FRF (00219)  
 Chuckar Springs (00214)  
 Cinder Butte (00902)  
 Clover Creek (00518)  
 Clover Flat (00407)  
 Cogan Hills (00400)  
 Coleman Seeding (00432)  
 Corn Lake (00514)  
 Cougar Mountain (00908)  
 Cox Butte (00509)  
 Cox Individual (00217)  
 Coyote-Colvin (00517)  
 Coyote Creek (00405)  
 Crack-in-the-Ground (00102)  
 Crooked Creek (01301)  
 Crump Individual (00204)  
 Dead Indian-Duncan (00709)

Devils Garden (00907)	Priday Reservoir (00521)
Diablo Peak (00436)	Rabbit Basin (00516)
Dick's Creek (01306)	Rahilly-Gravelly (00212)
East Green Mountain (00101)	Rim (00210)
East Jug Mountain (00433)	Rosebud (00421)
East Rabbit Hills (00530)	Round Mountain (00211)
Egli Rim (00420)	Rye Ranch (00706)
Fenced Federal (00401)	Sagehen (00208)
Fir Timber Butte (00412)	Sandy Seeding (00218)
Fish Creek (00519)	Schadler (00209)
Fisher Lake (00222)	Schultz (01305)
Five Mile Butte (00426)	Shale Rock (00435)
Fremont (00900)	Sheeprock (00428)
FRF Bar 75 Ranch (01002)	Silver Creek (00713)
FRF Fitzgerald (00502)	Silver Creek-Bridge Creek (00700)
FRF Flynn (00501)	Silver Lake Bed (00716)
FRF Laird (00507)	South Butte Valley (01073)
FRF Lynch (00505)	South Hayes Butte (00711)
FRF Rock Creek Ranch (00508)	South Poverty (00430)
FRF Taylor (00503)	South Rabbit Hills (00529)
Greaser Drift (00205)	Squaw Butte (00915)
Hickey FRF (00223)	Squaw Lake (00418)
Hickey Individual (00202)	St. Patricks (00419)
Highway (00904)	Table Rock (00714)
Hill Camp (00215)	Thomas Creek (01302)
Hill Field (00423)	Tim Long Creek (00410)
Hogback Butte (00910)	Tuff Butte (00707)
Homestead (00905)	Twin Lakes (00429)
Jones Canyon (00411)	Upper Bridge Creek (00701)
Juniper Mountain (00515)	Valley (00911)
Lane Individual (00524)	Vinyard (00201)
Lane Plan I (00207)	Ward Lake (00704)
Lane Plan II (00206)	Warner Lakes (00523)
Little Juniper Spring (01000)	Wastina (00901)
Lynch-Flynn (00520)	West Clover Flat (00406)
Murdock (00710)	West Green Mountain (00914)
Narrows (00431)	West Lake (00424)
North Bluejoint (00512)	White Rock (00416)
Northeast Warner (00511)	Willow Creek (00404)
North Rabbit Hills (00531)	XL (00427)
North Webster (00906)	ZX-Christmas Lake (00103)
Oatman Flat (00705)	
O'Keeffe Individual (00216)	
O'Keeffe (01303)	
O'Keeffe FRF (00203)	
Orijana Rim (00510)	
Paisley Flat (00422)	
Peter Creek (00100)	
Pike Ranch (00425)	
Pine Creek (00403)	



Number: 00100		Name: PETER CREEK			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	13,800	Active preference:	329	Bighorn sheep:	30
Other acres:	640	Suspended nonuse:	0	Deer/pronghorn:	25
Category:	M	Total preference:	329	Elk:	30
				Other wildlife:	5
				Wild horses:	0
				Total:	90

#### Identified resource conflicts/concerns

#### Management direction

#### Range/livestock management:

##### General.

- Continue livestock management practices under the 1990 allotment management plan. Revise the following objectives as needed to meet multiple use objectives:

1. Maintain current allocation of 329 animal unit months (AUM's) for livestock and 30 AUM's for wildlife. The wildlife use is the normal deer winter range in the north pasture of the allotment.
2. Determine the full grazing capacity of each pasture in the allotment through monitoring, and allocate the forage on a permanent sustained yield basis.
3. To provide each pasture of the allotment periodic growing season rest (April 1 to peak of flowering on or about June 20).
4. To manage for an average maximum 50 % utilization on key forage species.
5. To maintain the range condition as measured by existing nested frequency monitoring studies.
  - a. On PC-1, maintain Idaho fescue at 50 % or greater, maintain bottlebrush squirreltail at 20% or greater and maintain Thurber's needlegrass at 20% or greater.
  - b. On PC-2, maintain Idaho fescue, bottlebrush squirreltail, and Thurber's needlegrass at 30% each or greater.
  - c. On PC-3, maintain Idaho fescue and bottlebrush squirreltail at 30 % or greater, maintain Thurber's needlegrass at 20% or greater.

##### Livestock distribution/management.

- Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

##### Improve/maintain range condition.

- Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

#### Plant communities/vegetation:

##### Improve big sagebrush habitats with juniper invasion to early- or mid-seral stage.

- Through management prescriptions, remove juniper invading big sagebrush habitat.

##### Maintain/improve old growth juniper stands.

- Manage old growth juniper to preserve old growth characteristics.

#### Wildlife/wildlife habitat:

##### Mule deer winter range.

- Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

##### No forage allocated for elk.

- Monitor population expansion to ensure that sufficient forage and habitat are available.

##### Special status animal species occurs within the allotment: greater sage-grouse.

- Implement interim greater sage-grouse guidelines.

Number: 00101		Name: EAST GREEN MOUNTAIN			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	17,241	Active preference:	980	Bighorn sheep:	<u>60</u>
Other acres:	1,440	Suspended nonuse:	0	Deer/pronghorn:	<u>285</u>
Category:	M	Total prefe rence:	980	Elk:	50
				Other wildlife:	<u>30</u>
				Wild horses:	0
				Total:	<u>425</u>

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

General.

- Continue livestock management practices under the 1993 allotment management plan. Revise the following objectives as needed to meet multiple use objectives.

1. To maintain current allocation of 980 AUM's for livestock and 315 AUM's for wildlife.
2. To provide each pasture in the allotment periodic growing season rest (April 1 to peak of flowering on or about June 20).
3. To manage each pasture so that AUM ratings are not exceeded. Current ratings are:

Jack's Place	90 AUM's
Lava Burn	516 AUM's
Sixteen Well	118 AUM's
Bunchgrass	119 AUM's
Green Mountain	452 AUM's
4. To manage for an average maximum utilization of 50% on key native forage species, and 60% utilization on crested wheatgrass seedings.
5. To maintain range condition by existing nested plot frequency and photo plot monitoring studies. Objectives for percent composition of the key species are:
  - a. At study sites EG-1 and EG-4, maintain crested wheatgrass at 75% or greater; maintain shrub species at < 20% composition.
  - b. At site EG-2, maintain Idaho fescue at 35% or greater, needle-and-thread grass at 10% or greater, and restrict shrub species to < 50% composition.
  - c. At EG-3, maintain Idaho fescue at 30% or greater, needle-and-thread grass at 10% or greater, and junegrass at 5% or greater. Maintain shrub species at < 50% composition.
  - d. At study site EG-6, maintain Idaho fescue at 40% or greater and shrub species at < 50%.
6. To maintain all existing range improvements.

Livestock distribution/management.

- Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

- Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Wildlife/wildlife management:**

Mule deer winter range.

- Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for elk.

- Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

- Manage Squaw Ridge WSA under the wilderness IMP.

**Special management areas:**

Squaw Ridge WSA is part of the allotment.

- Implement interim greater sage-grouse guidelines.

Number: 00102		Name: CRACK-IN-THE-GROUND			
General		Grazing information (AUM's)		Other forage demands (AUM's)	
Public acres:	15,419	Active preference:	298	Bighorn sheep:	20
Other acres:	400	Suspended nonuse:	0	Deer/pronghorn:	133
Category:	I	Total preference:	298	Elk:	40
				Other wildlife:	10
				Wild horses:	0
				Total:	203

**Identified resource conflicts/concerns:****Management direction:****Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Watershed/riparian/fisheries:**

No objectives for playa management.

■ As they are developed, incorporate playa management objectives into the allotment.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for elk.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Number: 00103		Name: ZX-CHRISTMAS LAKE			
General		Grazing information (AUM's)		Other forage demands (AUM's)	
Public acres:	524,180	Active preference:	31,069	Bighorn sheep:	<u>20</u>
Other acres:	54,640	Suspended nonuse:	6,588	Deer/pronghorn:	<u>500</u>
Category:	I	Total preference:	37,657	Elk:	260
				Other wildlife:	29
				Wild horses:	408
				Total:	<u>1,217</u>

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Current range condition, level, or pattern of utilization may be unacceptable; carrying capacity (under current management practices) may be exceeded.

■ Maintain/improve rangeland condition and productivity through a change in management practices, reseeding, or project implementation. Adjust permitted use as needed.

Maintain/improve forage production.

■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.

**Plant communities/vegetation:**

Portions of the area in the Great Basin ecosystem are in unsatisfactory condition and cannot be healed through management strategies.

■ Restore portions of the Great Basin ecosystem to promote plant community diversity, allowing the communities to be more resilient to invasive species and disturbance.

Noxious weed encroachment.

■ Monitor/control perennial pepperweed and other noxious weeds using integrated weed management in the Brim Well area and within the allotment.

**Wild horses:**

Insufficient forage allocated for wild horses at appropriate management levels.

■ Increase forage allocation for wild horses to 785 AUM's.

Appropriate management levels for wild horses.

■ Maintain current appropriate management levels for wild horse populations.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for elk.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Limiting pronghorn habitat in less than satisfactory condition.

■ Maintain/improve pronghorn habitat condition.

Special status species habitats occur within the allotment: prostrate buckwheat and greater sage-grouse.

■ Protect special status species/habitat from BLM-authorized activities. Develop a conservation agreement for special status plant protection. Implement interim greater sage-grouse guidelines.

**Special management areas:**

Lost Forest Research Natural Area (RNA) exists within the allotment.

■ Manage livestock grazing to protect the Lost Forest RNA.

■ Coordinated resource management plan objectives. The following are the BLM objectives within the "Sycan X Coordinated Resource Management Plan," which includes numerous objectives for other private land ownerships:

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Number: 00103 [CONTINUED]

Name: ZX-CHRISTMAS LAKE

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1. Revise objectives as needed to meet multiple use objectives.
2. Maintain or improve vigor of crested wheatgrass seedings for BLM grazing allotment #103, Christmas Lake.
3. Comply with objectives of the allotment management plans for BLM grazing allotments #712, Bridge Well, and #713, Silver Creek.

Number: 00200		Name: BLUE CREEK SEEDING			
General		Grazing information (AUM's)		Other forage demands (AUM's)	
Public acres:	600	Active preference:	131	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	45
Category:	C	Total preference:	131	Elk:	0
				Other wildlife:	5
				Wild horses:	0
				Total:	50

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

- Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Maintain/improve forage production.

- Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.

**Plant communities/vegetation:**

Noxious weed encroachment.

- Implement the objectives for the Warner Basin Weed Management Area plan.

**Watershed/riparian/fisheries:**

No objectives for riparian habitat and stream channels.

- Develop riparian and stream channel/desired future conditions objectives based on riparian and stream condition classifications for streams not in desired future condition.

**Wildlife/wildlife management:**

Special status animal species occurs within the allotment: greater sage-grouse.

- Implement interim greater sage-grouse guidelines.

Mule deer winter range.

- Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

**Special management areas:**

Exclosure maintenance.

- Maintain existing exclosures, including those along the proposed WSR.

Number: <u>00201</u>		Name: <u>VINYARD</u>			
General		Grazing information (AUM's)		Other forage demands (AUM's)	
Public acres:	8,600	Active preference:	460	Bighorn sheep:	100
Other acres:	160	Suspended nonuse:	0	Deer/pronghorn:	<u>100</u>
Category:	I	Total preference:	460	Elk:	10
				Other wildlife:	12
				Wild horses:	0
				Total:	<u>222</u>

**Identified resource conflicts/concerns:**
**Management direction:**
**Range/livestock management:**
General.

- Continue livestock management practices under the 1969 allotment management plan, with those modifications made in 1999. Revise the following objectives as needed to meet multiple use objectives:

1. To reduce accelerated gully soil erosion in Sweeny Canyon and the numerous short side drainages along Deep Creek, and moderate sheet soil erosion on the table land area of the West pasture, by increasing the density of bluebunch wheatgrass, bottlebrush squirreltail, and *Stipa* spp. 50%, increasing the composition of bluebunch wheatgrass 50% from that recorded in photo trend plots 460/487, and indicated by observance of photo stations 461–464.

2. To increase the availability of forage for deer annually from December–April in the seeding pasture of the allotment by establishing crested wheatgrass seeding to a 10–15% density, yet not allowing crested wheatgrass wolf plants to develop, and increasing the density of bluebunch wheatgrass, bottlebrush squirreltail, and Thurber's needlegrass 50%, and composition of bluebunch wheatgrass 50% from that recorded in photo trend plot 460 and 487, and indicated by observance of photo stations 461–464. To have available for deer use in those months 80% of the current year's growth of bitterbrush in the allotment.

3. To restore 244 AUM's of suspended nonuse and maintain an average 610 AUM's of annual actual livestock use within this allotment by increasing the density of bluebunch wheatgrass, bottlebrush squirreltail, and Thurber's needlegrass 50%, and increasing the composition of bluebunch wheatgrass 50% from that recorded in photo stations 461–464. Maintaining this level of density and composition should afford sufficient annual forage to obtain the desired average actual use stated above within 4 years.

Livestock distribution/management.

- Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

- Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Plant communities/vegetation:**

Juniper encroachment is impacting watershed functions, wildlife habitat, quaking aspen/bitterbrush stands, and ecological conditions.

- Restore productivity and biodiversity in juniper and quaking aspen/bitterbrush stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Manage quaking aspen to maintain age class diversity and allow for species reestablishment.

Noxious weed encroachment.

- Implement the objectives for the Warner Basin Weed Management Area plan.

Special status plant species and habitats present: dwarf lousewort.

- Protect special status plant species/habitat from BLM-authorized activities.

**Watershed/riparian/fisheries:**

No objectives for riparian habitat and stream channels.

- Develop riparian and stream channel/desired future conditions objectives based on riparian and stream condition classifications for streams not in desired future condition.

Water quality is potentially impacted by grazing.

- Where BLM-authorized activities are determined to be impacting water quality, modify management to improve surface water quality to meet/exceed state standards.

No conservation strategy for redband trout.

- Develop/implement redband trout conservation strategy.

Exclosure maintenance.

- Continue maintenance of existing exclosures to comply with/implement biological opinion for Warner sucker.

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Number: **00201 [CONTINUED]**

Name: **VINYARD**

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**Wildlife/wildlife habitat:**

Mule deer winter range.

- Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for elk or bighorn sheep.

- Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

- Implement interim greater sage-grouse guidelines.



Number: 00202		Name: HICKEY INDIVIDUAL			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	10,906	Active preference:	583	Bighorn sheep:	0
Other acres:	90	Suspended nonuse:	0	Deer/pronghorn:	85
Category:	M	Total preference:	583	Elk:	30
				Other wildlife:	17
				Wild horses:	0
				Total:	132
Identified resource conflicts/concerns:		Management direction:			
Range/livestock management:					
General.		<div>■ Continue livestock management practices under the 1975 allotment management plan. Revise the following objectives as needed to meet multiple use objectives.</div> <div>1. To reduce accelerated and potential accelerated gully soil erosion in the several short side drainages along Camas Creek and moderate sheet soil erosion on the table land in the Fish Creek Rim area by increasing litter accumulation, vegetative cover, and vigor 50% from that recorded in photo trend plots 475, 477–479, and 484–485.</div> <div>2. To increase the availability and the amount of forage for deer in the months of January–March in seeding pasture of the allotment by maintaining the crested wheatgrass seeding, yet not allowing crested wheatgrass wolf plants to develop, and increase the density of Idaho fescue and bluebunch wheatgrass and composition of Idaho fescue and bluebunch wheatgrass from that recorded in photo trend plot 474 and indicated by observance of photo station 475. To have available for deer use in those 3 months 80% of the current year's growth of bitterbrush in the allotment.</div> <div>3. To restore 100 AUM's of suspended nonuse and maintain an average 1,112 AUM's of annual actual livestock use within the allotment. Increase vegetative cover and vigor of Idaho fescue, bottlebrush squirreltail, and bluebunch wheatgrass from that recorded in photo trend plots 473–474, 476, 509A, and indicated by observance of photo stations 475, 477–479, 484–485, and 510A.</div> <div>The key species are crested wheatgrass, Idaho fescue and bluebunch wheatgrass. Saltgrass) and bottlebrush squirreltail are key species in Fisher Lake.</div>			
Livestock distribution/management.		<div>■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.</div>			
Improve/maintain range condition.		<div>■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.</div>			
Plant communities/vegetation:					
Juniper encroachment is impacting watershed functions, wildlife habitat, quaking aspen/bitterbrush stands, and ecological conditions.		<div>■ Restore productivity and biodiversity in juniper and quaking aspen/bitterbrush stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Manage quaking aspen to maintain age class diversity and allow for species reestablishment.</div>			
Noxious weed encroachment.		<div>■ Implement the objectives for the Warner Basin Weed Management Area plan.</div>			
Special status plant species and habitats present: nodding melic grass.		<div>■ Protect special status plant species/habitat from BLM-authorized activities.</div>			
Watershed/riparian/fisheries:					
No objectives for riparian habitat and stream channels.		<div>■ Develop riparian and stream channel/desired future conditions objectives based on riparian and stream condition classifications for streams not in desired future condition.</div>			
Water quality is potentially impacted by grazing.		<div>■ Where BLM-authorized activities are determined to be impacting water quality, modify management to improve surface water quality to meet/exceed state standards.</div>			
No conservation strategy for redband trout.		<div>■ Develop/implement conservation agreement for redband trout.</div>			
Exclosure maintenance.		<div>■ Continue maintenance of existing exclosures to comply with/implement biological opinion for Warner sucker.</div>			
Wildlife/wildlife habitat:					
Mule deer winter range.		<div>■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.</div>			
No forage allocated for elk.		<div>■ Monitor population expansion to ensure that sufficient forage and habitat are available.</div>			

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**Number: 00202 [CONTINUED]**

**Name: HICKEY INDIVIDUAL**

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Special status animal species occurs within the allotment: greater sage-grouse.

- Implement interim greater sage-grouse guidelines.

***Special management areas:***

Proposed Fish Creek Rim ACEC exists within the allotment.

- Adjust allotment management, including levels and areas of authorized use, seasons of use, and grazing system, as required by proposed ACEC management plan.

Fish Creek Rim WSA occurs within the allotment

- Manage WSA under the wilderness IMP.

Number: 00203		Name: O'KEEFFE FRF			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	565	Active preference:	48	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	1
Category:	C	Total preference:	48	Elk:	9
				Other wildlife:	1
				Wild horses:	0
				Total:	11

Identified resource conflicts/concerns:		Management direction:	
<i>Range/livestock management:</i>			
<u>Livestock distribution/management.</u>		■ <u>Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.</u>	
<i>Plant Communities/Vegetation:</i>			
Noxious weed encroachment.		■ Implement the objectives for the Warner Basin Weed Management Area plan.	
<i>Watershed/riparian/fisheries:</i>			
No objectives for riparian habitat and stream channels.		■ Develop riparian and stream channel/desired future conditions objectives based on riparian and stream condition classifications for streams not in desired future condition.	
<i>Wildlife/wildlife habitat:</i>			
<u>Mule deer winter range.</u>		■ <u>Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.</u>	
<u>No forage allocated for elk.</u>		■ <u>Monitor population expansion to ensure that sufficient forage and habitat are available.</u>	
<u>Special status animal species occurs within the allotment: greater sage-grouse.</u>		■ <u>Implement interim greater sage-grouse guidelines.</u>	
<i>Special management areas:</i>			
Exclosure maintenance.		■ Maintain existing exclosures, including those along the proposed WSR.	

Number: 00204		Name: CRUMP INDIVIDUAL			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	2,930	Active preference:	92	Bighorn sheep:	100
Other acres:	395	Suspended nonuse:	106	Deer/pronghorn:	45
Category:	I	Total preference:	198	Elk:	0
				Other wildlife:	5
				Wild horses:	0
				Total:	150

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Plant communities/vegetation:**

Juniper encroachment is impacting watershed functions, wildlife habitat, quaking aspen/bitterbrush stands, and ecological conditions.

■ Restore productivity and biodiversity in juniper and quaking aspen/bitterbrush stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Manage quaking aspen to maintain age class diversity and allow for species reestablishment.

Noxious weed encroachment.

■ Implement the objectives for the Warner Basin Weed Management Area plan.

**Watershed/riparian/fisheries:**

No objectives for riparian habitat and stream channels.

■ Develop riparian and stream channel/desired future conditions objectives based on riparian and stream condition classifications for streams not in desired future condition.

Water quality is potentially impacted by grazing.

■ Where BLM-authorized activities are determined to be impacting water quality, modify management to improve surface water quality to meet/exceed state standards.

Exclosure maintenance.

■ Continue maintenance of existing exclosures to comply with/implement biological opinion for Warner sucker.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for bighorn sheep.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

**Special management areas:**

The Fish Creek Rim WSA occurs within the allotment.

■ Manage the WSA under the wilderness IMP.

Number: 00205		Name: GREASER DRIFT			
General		Grazing information (AUM's)		Other forage demands (AUM's)	
Public acres:	9,210	Active preference:	356	Bighorn sheep:	30
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	90
Category:	M	Total preference:	356	Elk:	0
				Other wildlife:	10
				Wild horses:	0
				Total:	130

**Identified resource conflicts/concerns:****Management direction:*****Range/livestock management:***Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Currently, no fall grazing use is authorized.

■ Modify the term grazing permit to include fall grazing.

***Plant communities/vegetation:***

Noxious weed encroachment.

■ Eradicate yellow starthistle.

■ Implement the objectives for the Warner Basin Weed Management Area plan.

***Watershed/riparian/fisheries:***

No conservation strategy for redband trout.

■ Develop/implement conservation agreement for redband trout.

***Wildlife/wildlife habitat:***Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for bighorn sheep.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Waterfowl habitat management.

■ Continue implementation of the habitat management plan/management framework plan objectives to improve waterfowl habitat.

Number: 00206		Name: LANE PLAN II			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	9,910	Active preference:	450	Bighorn sheep:	0
Other acres:	3,330	Suspended nonuse:	0	Deer/pronghorn:	130
Category:	M	Total preference:	450	Elk:	30
				Other wildlife:	16
				Wild horses:	0
				Total:	176

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

General.

- Continue livestock management practices under the 1970 allotment management plan. Revise the following objectives as needed to meet multiple use objectives:

1. To reduce gully erosion in the steep topography of the allotment, mainly along Parsnip and Drake Creeks, and moderate sheet erosion throughout the allotment by increasing the density and composition of Idaho fescue 50% from that recorded in photo trend plots 426 and 496-97, and indicated by observance of photo stations 438-49, 450-52, 499, and 500. Maintaining this level of density and composition on the trend plots and photo stations should afford sufficient soil cover and holding ability on the allotment to stabilize erosion at a tolerable level.

2. To increase the availability and amount of forage for deer in the months of January-March in that portion of the allotment in the Deep Creek deer winter range, mainly in Pasture 3, by not allowing crested wheatgrass and Idaho fescue wolf plants to develop, yet increasing the density and composition of Idaho fescue 50% from that recorded in photo trend plot 426 and 496-97, and indicated by observance of photo stations 438-39, 450-52, 499, and 500. To have available for deer use in those 3 months 80% of the current year's growth of bitterbrush in the allotment.

3. To restore 459 AUM's of suspended nonuse and maintain an average of 867 AUM's of annual actual livestock use within this allotment by increasing and maintaining the density of Idaho fescue 50% from that recorded in photo trend plots 426 and 496-97, and indicated by observance of photo stations 438-39, 450-52, 499, and 500. Maintaining this level of density and composition should afford sufficient annual forage to obtain the desired average actual use date above in 4 years.

The grazing system will meet the objectives in Pastures 1 and 2 by:

a. Increasing plant density and improving plant composition for improved watershed protection and increased livestock forage by allowing deferment during the critical growth period of key forage species to allow vigor, restoration, and occasional seed trampling.

b. Increasing wildlife forage by providing deferment for key wildlife forage species. Also will not allow the development of crested wheatgrass wolf plants in Pasture 3.

The grazing system in Pasture 3 will accomplish the objectives by not allowing crested wheatgrass wolf plants to develop, yet allow root reserve restoration preceding use each spring.

Key species are Idaho fescue and *Stipa* spp. in Pastures 1 and 2 and crested wheatgrass in Pasture 3.

Livestock distribution/management.

- Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

- Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Plant communities/vegetation:**

Juniper encroachment is impacting watershed functions, wildlife habitat, quaking aspen/bitterbrush stands, and ecological conditions.

- Restore productivity and biodiversity in juniper and quaking aspen/bitterbrush stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Manage quaking aspen to maintain age class diversity and allow for species reestablishment.

Noxious weed encroachment.

- Implement the objectives for the Warner Basin Weed Management Area plan.

Special status plant species and habitats present: dwarf lousewort.

- Protect special status plant species/habitat from BLM-authorized activities.

Number: 00206 [CONTINUED]

LANE PLAN II

**Watershed/riparian/fisheries:**

- |   |  |
|---|--|
| No objectives for riparian habitat and stream channels. | ■ Develop riparian and stream channel/desired future conditions objectives based on riparian and stream condition classifications for streams not in desired future condition. |
| Water quality is potentially impacted by grazing.       | ■ Where BLM-authorized activities are determined to be impacting water quality, modify management to improve surface water quality to meet/exceed state standards.             |
| No conservation strategy for redband trout.             | ■ Develop/implement conservation agreement for redband trout.  |
| Exclosure maintenance.                                  | ■ Continue maintenance of existing exclosures to comply with implement biological opinion of Warner sucker.  |

**Wildlife/wildlife habitat:**

- |  |  |
|--|--|
| <u>Mule deer winter range.</u>   | ■ <u>Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.</u> |
| No forage allocated for elk.   | ■ <u>Monitor population expansion to ensure that sufficient forage and habitat are available.</u>  |
| <u>Special status animal species occurs within the allotment: greater sage-grouse.</u> | ■ <u>Implement interim greater sage-grouse guidelines.</u>   |

Number: 00207		Name: LANE PLAN I			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	24,725	Active preference:	1,942	Bighorn sheep:	0
Other acres:	1,370	Suspended nonuse:	0	Deer/pronghorn:	180
Category:	M	Total preference:	1,942	Elk:	30
				Other wildlife:	20
				Wild horses:	0
				Total:	230

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

General.

- Continue livestock management practices under the 1971 allotment management plan. Revise the following objectives as needed to meet multiple use objectives:

1. To reduce gully erosion in the steep topography of the Big Valley pasture and moderate sheet erosion throughout the allotment by increasing the density, vigor, and litter 50% from that recorded in photo trend plots 415-17, 420, and 501-02, and indicated by observance of photo stations 455, 503, and 506. Maintaining this level of density and composition on the trend plots and photo stations should afford sufficient soil cover and holding ability on the allotment to stabilize erosion at a tolerable level.

2. To increase the availability and amount of forage for deer in the months of January-March in that portion of the allotment within the Deep Creek deer winter range mainly in the Grain Camp pasture, by not allowing crested wheatgrass wolf plants to develop. Increase the composition and vigor of Idaho fescue and bluebunch wheatgrass, if soil conditions allow such, from that recorded in photo trend plots 415-17, 420, 501, and 502, and indicated by observance of photo stations 445, 455, 503, and 506. To have available for deer use in those 3 months 80% of the current year's growth of bitterbrush in the allotment.

3. Maintain an average of 2,097 AUM's of annual actual livestock use within this allotment. Increase the density, composition, and vigor of Idaho fescue and bluebunch wheatgrass. Maintain the density of crested wheatgrass in the Grain Camp pasture from that recorded in photo trend plots 415-17, 420, 501, and 502, and indicated by observance of photo stations 445, 455, 505, and 506.

Livestock distribution/management.

- Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

- Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Plant communities/vegetation:**

Juniper encroachment is impacting watershed functions, wildlife habitat, quaking aspen/bitterbrush stands, and ecological conditions.

- Restore productivity and biodiversity in juniper and quaking aspen/bitterbrush stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Manage quaking aspen to maintain age class diversity and allow for species reestablishment.

Noxious weed encroachment.

- Implement the objectives for the Warner Basin Weed Management Area plan.

**Watershed/riparian/fisheries:**

No objectives for riparian habitat and stream channels.

- Develop riparian and stream channel/desired future conditions objectives based on riparian and stream condition classifications for streams not in desired future condition.

Water quality is potentially impacted by grazing.

- Where BLM-authorized activities are determined to be impacting water quality, modify management to improve surface water quality to meet/exceed state standards.

Exclosure maintenance.

- Continue maintenance of existing exclosures to comply with/implement biological opinion for Warner sucker.

**Wildlife/wildlife habitat:**

Mule deer winter range.

- Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for elk.

- Monitor population expansion to ensure that sufficient forage and habitat are available.

No conservation strategy for redband trout.

- Develop/implement conservation agreement for redband trout.

Special status animal species occurs within the allotment: greater sage-grouse.

- Implement interim greater sage-grouse guidelines.



Number: 00208		Name: SAGEHEN			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	3,280	Active preference:	266	Bighorn sheep:	0
Other acres:	2,050	Suspended nonuse:	0	Deer/pronghorn:	40
Category:	M	Total preference:	266	Elk:	30
				Other wildlife:	20
				Wild horses:	0
				Total:	90

<b>Identified resource conflicts/concerns:</b>		<b>Management direction:</b>	
<b>Range/livestock management:</b>			
<u>Livestock distribution/management.</u>		■ <u>Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.</u>	
<u>Improve/maintain range condition.</u>		■ <u>Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.</u>	
<b>Plant communities/vegetation:</b>			
Juniper encroachment is impacting watershed functions, wildlife habitat, quaking aspen/bitterbrush stands, and ecological conditions.		■ Restore productivity and biodiversity in juniper and quaking aspen/bitterbrush stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Manage quaking aspen to maintain age class diversity and allow for species reestablishment.	
Noxious weed encroachment.		■ Implement the objectives for the Warner Basin Weed Management Area plan.	
<b>Watershed/riparian/fisheries:</b>			
No objectives for riparian habitat and stream channels.		■ Develop riparian and stream channel/desired future conditions objectives based on riparian and stream condition classifications for streams not in desired future condition.	
Water quality is potentially impacted by grazing.		■ Where BLM-authorized activities are determined to be impacting water quality, modify management to improve surface water quality to meet/exceed state standards.	
No conservation strategy for redband trout.		■ Develop/implement conservation agreement for redband trout.	
Exclosure maintenance.		■ Continue maintenance of existing exclosures to comply with/implement biological opinion for Warner sucker.	
<b>Wildlife/wildlife habitat:</b>			
<u>Mule deer winter range.</u>		■ <u>Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.</u>	
No forage allocated for elk.		■ <u>Monitor population expansion to ensure that sufficient forage and habitat are available.</u>	
Special status species habitats occur within the allotment: greater sage-grouse and prostrate buckwheat.		■ Protect special status species/habitat from BLM-authorized activities. Implement interim greater sage-grouse guidelines. Implement recovery plan for other listed fish in the Warner Basin.	

Number: 00209		Name: SCHADLER			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	790	Active preference:	57	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	15
Category:	C	Total preference:	57	Elk:	15
				Other wildlife:	15
				Wild horses:	0
				Total:	35
Identified resource conflicts/concerns:		Management direction:			
Range/livestock management:					
Livestock distribution/management.		■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.			
Plant communities/vegetation:					
Noxious weed encroachment.		■ Implement the objectives for the Warner Basin Weed Management Area plan.			
Status and location of special status species and cultural plant communities are unknown.		■ Conduct inventory for special status species and cultural plant communities to determine distribution and grazing impacts.			
Watershed/riparian/fisheries:					
No objectives for riparian habitat and stream channels.		■ Develop riparian and stream channel/desired future conditions objectives based on riparian and stream condition classifications for streams not in desired future condition.			
Wildlife/wildlife habitat:					
Mule deer winter range.		■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.			
No forage allocated for elk.		■ Monitor population expansion to ensure that sufficient forage and habitat are available.			
Special status animal species occurs within the allotment: greater sage-grouse.		■ Implement interim greater sage-grouse guidelines.			
Special management areas:					
Exclosure maintenance.		■ Maintain existing exclosures, including those along the proposed WSR.			

Number: 00210		Name: RIM			
General		Grazing information (AUM's)		Other forage demands (AUM's)	
Public acres:	2,376	Active preference:	39	Bighorn sheep:	0
Other acres:	680	Suspended nonuse:	0	Deer/pronghorn:	10
Category:	M	Total preference:	39	Elk:	
				Other wildlife:	5
				Wild horses:	0
				Total:	15

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Plant communities/vegetation:**

Noxious weed encroachment.

■ Implement the objectives for the Warner Basin Weed Management Area plan.

Status and location of special status species and cultural plant communities are unknown.

■ Conduct inventory for special status species and cultural plant communities to determine distribution and grazing impacts.

**Watershed/riparian/fisheries:**

No objectives for riparian habitat and stream channels.

■ Develop riparian and stream channel/desired future conditions objectives based on riparian and stream condition classifications for streams not in desired future condition.

**Wildlife/wildlife management:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

**Special management areas:**

Exclosure maintenance.

■ Maintain existing exclosures, including those along the proposed WSR.

Number: 00211		Name: ROUND MOUNTAIN			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	16,330	Active preference:	1,102	Bighorn sheep:	0
Other acres:	1,640	Suspended nonuse:	0	Deer/pronghorn:	160
Category:	M	Total preference:	1,102	Elk:	90
				Other wildlife:	23
				Wild horses:	0
				Total:	273

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

General.

- Continue livestock management practices under the 1971 allotment management plan. Revise the following objectives as needed to meet multiple use objectives:
  1. To completely or nearly stop accelerated gully erosion in the Long Canyon drainage by establishing adequate vegetative cover in the drainage bottom through periodic relief from trampling and grazing. Progress of this objective will be pictorially recorded in photo station #467–68.
  2. To restore, as a minimum, 132 AUM's of suspended nonuse and maintain an average 1,200 AUM's of annual actual use within the allotment by increasing the vigor of the key species—Idaho fescue, Thurber's needlegrass, and bluebunch wheatgrass—and subsequently maintaining that increased vigor at an optimum level through periodic rest and deferment. The implementation of the proposed grazing system should meet the goal of this objective after one three-year cycle. Relative vigor of the key species will be documented in photo trend plots 419, 466, and 470.
  3. To ensure the continued availability of adequate late winter–early spring forage for mule deer by resting 1/3 of the allotment from all grazing in any one year. This objective will be monitored with the help of previously-mentioned photo stations, photo trend plots, and by bitterbrush transects maintained by the district wildlife biologist.

Livestock distribution/management.

- Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

- Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Plant communities/vegetation:**

Juniper encroachment is impacting watershed functions, wildlife habitat, quaking aspen/bitterbrush stands, and ecological conditions.

- Restore productivity and biodiversity in juniper and quaking aspen/bitterbrush stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Manage quaking aspen to maintain age class diversity and allow for species reestablishment.

Noxious weed encroachment.

- Implement the objectives for the Warner Basin Weed Management Area plan.

Special status plant species occurs within the allotment: prostrate buckwheat and *Grateola* spp.

- Protect special status species/habitat from BLM-authorized activities. Increase the size of the *Grateola* enclosure to provide additional protection.

**Watershed/riparian/fisheries:**

No objectives for riparian habitat and stream channels.

- Develop riparian and stream channel/desired future conditions objectives based on riparian and stream condition classifications for streams not in desired future condition.

Water quality is potentially impacted by grazing.

- Where BLM-authorized activities are determined to be impacting water quality, modify management to improve surface water quality to meet/exceed state standards.

No conservation strategy for redband trout.

- Develop/implement conservation agreement for redband trout.

Exclosure maintenance.

- Continue maintenance of existing exclosures to comply with/implement biological opinion for Warner sucker.

**Wildlife/wildlife management:**

Mule deer winter range.

- Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for elk.

- Monitor population expansion to ensure that sufficient forage and habitat are available.

<b>Number: 00211 [CONTINUED]</b>	<b>Name: ROUND MOUNTAIN</b>
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Special status animal species occurs within the allotment: greater sage-grouse.

■ Protect special status species/habitat from BLM-authorized activities. Implement interim greater sage-grouse guidelines.

***Special management areas:***

WSR is part of the allotment.

■ Based on its scenic values, Twelvemile Creek is a designated WSR. Management will continue to emphasize fisheries as its outstanding remarkable value. Grazing will be excluded from Twelvemile Creek.

Number: 00212		Name: RAHILLY-GRAVELLY			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	33,285	Active preference:	1,781	Bighorn sheep:	0
Other acres:	2,031	Suspended nonuse:	0	Deer/pronghorn:	329
Category:	I	Total preference:	1,781	Elk:	0
				Other wildlife:	21
				Wild horses:	0
				Total:	350

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

General.

- Continue livestock management practices under the 1984 allotment management plan. Revise the following objectives as needed to meet multiple use objectives:

Provide a sustained, high-level, regular output of the various renewable resources within the allotment, by allowing the vegetation affected by grazing to recover vigor, produce seed, establish seedlings, and accumulate litter between plants.

1. Meadow and mixed-browse types should receive special attention in livestock grazing manipulation. Some "shock" grazing of browse types may be necessary to shape browse. In certain wet meadow areas, temporary fencing may be needed to provide additional rest and allow more rapid vigor recovery.
2. Allow sufficient rest periods for healing gullies by increasing vegetative production, root systems, and litter accumulation.
3. Annually provide 1,700–2,000 AUM's of useable livestock forage, as reflected by actual use records.
4. Reduce the erosion caused by poorly-constructed or inadequately-drained roads and trails by properly draining some and abandoning others, with adequate drainage and seeding of disturbed areas where necessary.

Livestock distribution/management.

- Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

- Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Plant communities/vegetation:**

Juniper encroachment is impacting watershed functions, wildlife habitat, quaking aspen/bitterbrush stands, and ecological conditions.

- Restore productivity and biodiversity in juniper and quaking aspen/bitterbrush stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Manage quaking aspen to maintain age class diversity and allow for species reestablishment.

Noxious weed encroachment.

- Implement the objectives for the Warner Basin Weed Management Area plan.

Special status plant species and habitats present: Cooper's goldflower.

- Protect special status plant species/habitat from BLM-authorized activities.

**Watershed/riparian/fisheries:**

No objectives for riparian habitat and stream channels.

- Develop riparian and stream channel/desired future conditions objectives based on riparian and stream condition classifications for streams not in desired future condition.

Water quality is potentially impacted by grazing.

- Where BLM-authorized activities are determined to be impacting water quality, modify management to improve surface water quality to meet/exceed state standards.

No conservation strategy for redband trout.

- Develop/implement conservation agreement for redband trout.

Exclosure maintenance.

- Continue maintenance of existing exclosures to comply with/implement biological opinion Warner sucker.

**Number: 00212 [CONTINUED]**

**Name: RAHILLY-GRAVELLY**

***Wildlife/wildlife habitat:***

Mule deer winter range.

- Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

Special status animal species occurs within the allotment: greater sage-grouse.

- Implement interim greater sage-grouse guidelines.

***Special management areas:***

Proposed Rahilly-Gravelly ACEC exists within the allotment.

- Adjust allotment management, including levels and areas of authorized use, seasons of use, and grazing system, as required by proposed ACEC management plan.

Number: 00213		Name: BURRO SPRINGS			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	7,500	Active preference:	279	Bighorn sheep:	20
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	55
Category:	M	Total preference:	279	Elk:	0
				Other wildlife:	5
				Wild horses:	0
				Total:	80

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Plant communities/vegetation:**

Juniper encroachment is impacting watershed functions, wildlife habitat, quaking aspen/bitterbrush stands, and ecological conditions.

■ Restore productivity and biodiversity in juniper and quaking aspen/bitterbrush stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Manage quaking aspen to maintain age class diversity and to allow for species reestablishment.

Noxious weed encroachment.

■ Implement the objectives for the Warner Basin Weed Management Area plan.

Special status plant species and habitat present: long flowered snowberry.

■ Protect special status plant species/habitat from BLM-authorized activities.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for bighorn sheep.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

**Special management areas:**

Proposed Spanish Lakes and High Lakes ACEC's exist within the allotment.

■ Adjust allotment management, including levels and areas of authorized use, seasons of use, and grazing system, as required by proposed ACEC management plan.



Number: 00214		Name: CHUKAR SPRINGS			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	1,764	Active preference:	52	Bighorn sheep:	20
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	10
Category:	M	Total preference:	52	Elk:	0
				Other wildlife:	5
				Wild horses:	0
				Total:	35

Identified resource conflicts/concerns:	Management direction:
<i>Range/livestock management:</i>	
<u>Livestock distribution/management.</u>	■ <u>Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.</u>
<u>Improve/maintain range condition.</u>	■ <u>Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.</u>
<i>Plant communities/vegetation:</i>	
Juniper encroachment is impacting watershed functions, wildlife habitat, quaking aspen/bitterbrush stands, and ecological condition.	■ <u>Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Manage quaking aspen to maintain age class diversity and allow for species reestablishment.</u>
Noxious weed encroachment.	■ <u>Implement the objectives for the Warner Basin Weed Management Area plan.</u>
<i>Wildlife/wildlife habitat:</i>	
<u>Mule deer winter range.</u>	■ <u>Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.</u>
No forage allocated for bighorn sheep.	■ <u>Monitor population expansion to ensure that sufficient forage and habitat are available.</u>
<u>Special status animal species occurs within the allotment: greater sage-grouse.</u>	■ <u>Implement interim greater sage-grouse guidelines.</u>

Number: 00215		Name: HILL CAMP			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	30,790	Active preference:	3,932	Bighorn sheep:	45
Other acres:	2,710	Suspended nonuse:	0	Deer/pronghorn:	270
Category:	M	Total preference:	3,932	Elk:	0
				Other wildlife:	30
				Wild horses:	0
				Total:	345

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

General.

- Continue livestock management practices under the 1989 allotment management plan. Revise the following objectives as needed to meet multiple use objectives:
  1. Allow an opportunity for maximum herbage production, and thereby substantially restore vigor, three out of four years on all plants affected by grazing.
  2. Allow an opportunity for maximum seed production two or three years out of four on all plants substantially affected by grazing.
  3. Acquire substantial trampling by domestic livestock of all seed and foliage litter produced, into and on the soil surface, at least two out of four years.
  4. Allow all new seedlings one full year and two grazing seasons of rest from grazing every four years.
  5. Close and lay to rest (by filling in and seeding) all unnecessary roads, trails, and accelerated erosion scars.
  6. Require all new construction and maintenance of roads, reservoirs, and waterholes to be done in a manner which will:
    - a) Cause the least disturbance of topsoil and vegetation.
    - b) Result in the least amount of erosion possible.
    - c) Acquire quick revegetation of disturbed areas (seeding may be required).

Livestock distribution/management.

- Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

- Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Plant communities/vegetation:**

Juniper encroachment is impacting watershed functions, wildlife habitat, quaking aspen/bitterbrush stands, and ecological conditions.

- Restore productivity and biodiversity in juniper and quaking aspen/bitterbrush stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Manage quaking aspen to maintain age class diversity and allow for species reestablishment.

Noxious weed encroachment.

- Implement the objectives for the Warner Basin Weed Management Area plan.

Crested wheatgrass seedlings are in declining condition.

- Treat crested wheatgrass seedlings to improve ecological condition.

**Wildlife/wildlife habitat:**

Mule deer winter range.

- Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for bighorn sheep.

- Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status species habitats occur within the allotment: greater sage-grouse and Tui chub.

- Protect special status species/habitat from BLM-authorized activities. Implement interim greater sage-grouse guidelines and manage Tui chub in accordance with the final conservation agreement.

Number: 00216		Name: O'KEEFE INDIVIDUAL			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	51,785	Active preference:	4,808	Bighorn sheep:	50
Other acres:	3,010	Suspended nonuse:	0	Deer/pronghorn:	240
Category:	I	Total preference:	4,808	Elk:	0
				Other wildlife:	26
				Wild horses:	0
				Total:	316

**Identified resource conflicts/concerns:**
**Management direction:**
**Range/livestock management:**
General.

- Continue livestock management practices under the 1989 allotment management plan. Revise the following objectives as needed to meet multiple use objectives:

1. Maintain current allocation of 4,808 AUM's for livestock and 266 AUM's for wildlife, allowing for adjustments as monitoring data becomes available over the next 10 years.

2. Provide for an upward trend in pastures where it is determined through monitoring data that the key species composition in key areas could be increased over the next 10 years.

Livestock distribution/management.

- Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

- Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Plant communities/vegetation:**

Juniper encroachment is impacting watershed functions, wildlife habitat, quaking aspen/bitterbrush stands, and ecological conditions.

- Restore productivity and biodiversity in juniper and quaking aspen/bitterbrush stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Manage quaking aspen to maintain age class diversity and allow for species reestablishment.

Noxious weed encroachment.

- Implement the objectives for the Warner Basin Weed Management Area plan.

**Wildlife/wildlife habitat:**
Mule deer/pronghorn winter range.

- Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

Special status animal species occurs within the allotment: greater sage-grouse.

- Implement interim greater sage-grouse guidelines.

No forage allocated for bighorn sheep.

- Allocate AUM's to future/existing populations. Monitor population expansion to ensure that sufficient forage and habitat are available.

**Special management areas:**

Proposed High Lakes ACEC exists within the allotment.

- Adjust allotment management, including levels and areas of authorized use, seasons of use, and grazing system, as required by proposed ACEC management plan.

Number: 00217		Name: COX INDIVIDUAL			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	1,246	Active preference:	74	Bighorn sheep:	<u>70</u>
Other acres:	60	Suspended nonuse:	0	Deer/pronghorn:	<u>65</u>
Category:	I	Total preference:	74	Elk:	0
				Other wildlife:	<u>5</u>
				Wild horses:	0
				Total:	<u>140</u>

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

General.

- Continue livestock management practices under the 1972 allotment management plan. Revise the following objectives as needed to meet multiple use objectives:

1. To reduce potential accelerated erosion in Fisher Canyon watershed by maintaining/improving present vegetative cover. Deferring and/or resting those small livestock concentration areas every other year will afford a vegetative cover which will provide sufficient soil holding capacity to stabilize erosion. This objective will be evaluated by use of photo trend plots 518 and 520, and photo station 519.

2. Provide a sustained yield of at least 350 AUM's of annual actual livestock use in the allotment.

3. Maintain perennial forage in a form which is most desirable for spring deer use. This could be accomplished by grazing 1/2 the allotment season long each year. Old growth will be removed by cattle concentration, and new green growth will be available to mule deer in early spring through deferment of that area grazed the year before.

4. Key species will be recorded on appropriate forms.

Livestock distribution/management.

n Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

- Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Plant communities/vegetation:**

Juniper encroachment is impacting watershed functions, wildlife habitat, quaking aspen/bitterbrush stands, and ecological conditions.

- Restore productivity and biodiversity in juniper and quaking aspen/bitterbrush stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Manage quaking aspen to maintain age class diversity and allow for species reestablishment.

Noxious weed encroachment.

- Implement the objectives for the Warner Basin Weed Management Area plan.

Special status plant species and habitat present: broad-toothed monkeyflower.

- Protect special status plant species/habitat from BLM-authorized activities.

**Wildlife/wildlife habitat:**

Mule deer/pronghorn winter range.

- Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

Special status animal species occurs within the allotment: greater sage-grouse.

- Implement interim greater sage-grouse guidelines.

No forage allocated for bighorn sheep.

- Allocate AUM's to future/existing populations. Monitor population expansion to ensure that sufficient forage and habitat are available.

**Special management areas:**

High Lakes ACEC exists within the allotment.

- Adjust allotment management, including levels and areas of authorized use, seasons of use, and grazing system, as required by ACEC management plan.

Number: 00218		Name: SANDY SEEDING			
General		Grazing information (AUM's)		Other forage demands (AUM's)	
Public acres:	4,850	Active preference:	600	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	25
Category:	M	Total preference:	600	Elk:	0
				Other wildlife:	5
				Wild horses:	0
				Total:	30

**Identified resource conflicts/concerns:**
**Management direction:**
**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Maintain/improve forage production.

■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.

**Plant communities/vegetation:**

Juniper encroachment is impacting watershed functions, wildlife habitat, quaking aspen/bitterbrush stands, and ecological conditions.

■ Restore productivity and biodiversity in juniper and quaking aspen/bitterbrush stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Manage quaking aspen to maintain age class diversity and allow for species reestablishment.

Noxious weed encroachment.

■ Implement the objectives for the Warner Basin Weed Management Area plan.

Special plant communities and plant community cells.

■ Monitor area to determine plant community location.

**Wildlife/wildlife habitat:**

Mule deer/pronghorn winter range.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

No forage allocated for bighorn sheep.

■ Allocate AUM's to future/existing populations. Monitor population expansion to ensure that sufficient forage and habitat are available.

Number: 00219		Name: CAHILL FRF			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	470	Active preference:	280	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	15
Category:	C	Total preference:	280	Elk:	0
				Other wildlife:	5
				Wild horses:	0
				Total:	20

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

- Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

**Plant communities/vegetation:**

Noxious weed encroachment.

- Implement the objectives for the Warner Basin Weed Management Area plan.

**Wildlife/wildlife habitat:**

Special status animal species occurs within the allotment: greater sage-grouse.

- Implement interim greater sage-grouse guidelines.

Number: 00222		Name: FISHER LAKE			
General		Grazing information (AUM's)		Other forage demands (AUM's)	
Public acres:	4,320	Active preference:	781	Bighorn sheep:	10
Other acres:	656	Suspended nonuse:	0	Deer/pronghorn:	45
Category:	M	Total preference:	781	Elk:	0
				Other wildlife:	5
				Wild horses:	0
				Total:	60

**Identified resource conflicts/concerns:**
**Management direction:**
**Range/livestock management:**
General.

- Continue livestock management practices under the 1975 allotment management plan. Revise the following objectives as needed to meet multiple use objectives:

1. To reduce accelerated and potential accelerated gully soil erosion in the several short side drainages along Camas Creek, and moderate sheet soil erosion on the table land in the Fish Creek Rim area by increasing litter accumulation, vegetative cover, and vigor 50% from that recorded in photo trend plots 475, 477–479, and 484–485.

2. To increase the availability and the amount of forage for deer in the months of January–March in seeding pasture of the allotment by maintaining the crested wheatgrass seeding, yet not allowing crested wheatgrass wolf plants to develop. To increase the density and composition of Idaho fescue and bluebunch wheatgrass and from that recorded in photo trend plot 474 and indicated by observance of photo station 475. To have available for deer use in those 3 months 80% of the current year's growth on the bitterbrush in the allotment.

3. To restore 100 AUM's of suspended nonuse and maintain an average 1,112 AUM's of annual actual livestock use within the allotment. Increase vegetative cover and vigor of Idaho fescue, bottlebrush squirreltail, and bluebunch wheatgrass from that recorded in photo trend plots 473–474, 476, and 509A, and indicted by observance of photo stations 475, 477–479, 484–485, and 510A.

The key species are crested wheatgrass, Idaho fescue, and bluebunch wheatgrass. Saltgrass and bottlebrush squirreltail are key species in Fisher Lake.

Livestock distribution/management.

- Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

- Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Maintain/improve forage production.

- Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.

**Plant communities/vegetation:**
Noxious weed encroachment.

- Implement the objectives for the Warner Basin Weed Management Area plan.

**Wildlife/wildlife habitat:**
Special status animal species occurs within the allotment: greater sage-grouse.

- Implement interim greater sage-grouse guidelines.

Number: 00223		Name: HICKEY FRF			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	412	Active preference:	64	Bighorn sheep:	0
Other acres:	656	Suspended nonuse:	0	Deer/pronghorn:	50
Category:	C	Total preference:	64	Elk:	15
				Other wildlife:	11
				Wild horses:	0
				Total:	76

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

- Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

**Plant communities/vegetation:**

Noxious weed encroachment.

- Implement the objectives for the Warner Basin Weed Management Area plan.

**Wildlife/wildlife habitat:**

No forage allocated for elk.

- Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

- Implement interim greater sage-grouse guidelines.



Number: 00400		Name: COGLAN HILLS			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	12,774	Active preference:	117	Bighorn sheep:	40
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	130
Category:	M	Total preference:	117	Elk:	0
				Other wildlife:	5
				Wild horses:	0
				Total:	175

Identified resource conflicts/concerns:	Management direction:
<i>Range/livestock management:</i>	
<u>Livestock distribution/management.</u>	■ <u>Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.</u>
<u>Improve/maintain range condition.</u>	■ <u>Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.</u>
<u>Livestock effects on microbiotic crusts.</u>	■ <u>Establish monitoring sites to research livestock effects.</u>
<u>Monitor fences to protect ACEC values.</u>	■ <u>Maintain fences to protect Lake Abert ACEC.</u>
<i>Plant communities/vegetation:</i>	
<u>Noxious weed encroachment.</u>	■ <u>Implement the objectives for the Abert Rim Weed Management Area plan.</u>
<i>Wildlife/wildlife habitat:</i>	
<u>Mule deer winter range.</u>	■ <u>Monitor population expansion to ensure that sufficient forage and habitat are available.</u>
<u>No forage allocated for bighorn sheep.</u>	■ <u>Allocate AUM's to future/existing populations. Monitor population expansion to ensure that sufficient forage and habitat are available.</u>
<u>Special status animal species occurs within the allotment: greater sage-grouse.</u>	■ <u>Implement interim greater sage-grouse guidelines.</u>

Number: 00436		Name: DIABLO PEAK			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	74,098	Active preference:	0	Bighorn sheep:	100
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	80
Category:	C	Total preference:	0	Elk:	0
				Other wildlife:	5
				Wild horses:	0
				Total:	185
Identified resource conflicts/concerns:		Management direction:			
Range/livestock management:					
Modify season of use.		■ Season of use will be modified to March 20–May 31.			
Plant communities/vegetation:					
Noxious weed encroachment.		■ Implement the objectives for the Abert Rim Weed Management Area plan.			
Wild horses:					
Wild horses.		■ Decrease current forage allocation for wild horses from 123–0 AUM's, because this area is not in a herd area.			
Wildlife/wildlife habitat:					
No forage allocated for bighorn sheep.		■ Monitor population expansion to ensure that sufficient forage and habitat are available.			
Special status animal species occurs within the allotment: greater sage-grouse.		■ Implement interim greater sage-grouse guidelines.			

Number: <u>00437</u>		Name: <u>ABERT RIM</u>			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	14,659	Active preference:	0	Bighorn sheep:	180
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	<u>180</u>
Category:	C	Total preference:	0	Elk:	0
				Other wildlife:	<u>20</u>
				Wild horses:	0
				Total:	380
<b>Identified resource conflicts/concerns:</b>		<b>Management direction:</b>			
<i>Range/livestock management:</i>					
Monitor fences to protect ACEC values.		■ Maintain fences to protect Lake Abert ACEC.			
<i>Plant communities/vegetation:</i>					
Noxious weed encroachment.		■ Implement the objectives for the Abert Rim Weed Management Area plan.			
<i>Wildlife/wildlife management:</i>					
<u>No forage allocated for bighorn sheep.</u>		■ <u>Monitor population expansion to ensure that sufficient forage and habitat are available.</u>			
<u>Special status animal species occurs within the allotment: greater sage-grouse.</u>		■ <u>Implement interim greater sage-grouse guidelines.</u>			

Number: 00401		Name: FENCED FEDERAL			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	160	Active preference:	16	Bighorn sheep:	0
Other acres:	520	Suspended nonuse:	0	Deer/pronghorn:	5
Category:	C	Total preference:	16	Elk:	0
				Other wildlife:	5
				Wild horses:	0
				Total:	10

Identified resource conflicts/concerns: Management direction:

**Range/livestock management:**

Livestock distribution/management. ■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

**Plant communities/vegetation:**

Noxious weeds occur in the allotment. ■ Implement the Warner Basin Weed Management Area plan.

**Wildlife/wildlife management:**

Special status animal species occurs within the allotment: greater sage-grouse. ■ Implement interim greater sage-grouse guidelines.

Number: 00403		Name: PINE CREEK			
General		Grazing information (AUM's)		Other forage demands (AUM's)	
Public acres:	400	Active preference:	18	Bighorn sheep:	0
Other acres:	1,160	Suspended nonuse:	0	Deer/pronghorn:	1
Category:	C	Total preference:	18	Elk:	0
				Other wildlife:	1
				Wild horses:	0
				Total:	2
Identified resource conflicts/concerns:		Management direction:			
Range/livestock management:					
Livestock distribution/management.		■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.			
Plant communities/vegetation:					
Noxious weed encroachment: medusahead.		■ Develop/implement a medusahead management strategy.			
Watershed/riparian/fisheries:					
No objectives for riparian habitat and stream channels.		■ Improve surface water quality to state standards or better where BLM-authorized grazing is having a negative effect.			
Water quality is potentially impacted by grazing.		■ Exclude grazing along Pine Creek.			
Wildlife/wildlife habitat:					
Mule deer winter range.		■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.			
Special status animal species occurs within the allotment: greater sage-grouse.		■ Implement interim greater sage-grouse guidelines.			

Number: 00404		Name: WILLOW CREEK			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	11,805	Active preference:	472	Bighorn sheep:	0
Other acres:	8,845	Suspended nonuse:	0	Deer/pronghorn:	195
Category:	M	Total preference:	472	Elk:	0
				Other wildlife:	5
				Wild horses:	0
				Total:	200

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Maintain/improve forage production.

■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.

**Plant communities/vegetation:**

Juniper encroachment is impacting ecological conditions and quaking aspen/bitterbrush stands.

■ Restore productivity and biodiversity in juniper and quaking aspen/bitterbrush stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Manage quaking aspen to maintain age class diversity and allow for species reestablishment.

Noxious weed encroachment: medusahead.

■ Develop/implement a medusahead management strategy.

Special status species habitat occurs within the allotment: long-flowered snowberry.

■ Protect special status species/habitat from BLM-authorized activities.

**Watershed/riparian/fisheries:**

Grazing might be affecting surface water quality.

■ Improve surface water quality to state standards or better where BLM-authorized grazing is having a negative effect.

**Wildlife/wildlife management:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

Special status species habitat occurs within the allotment: greater sage-grouse.

■ Implement interim sagegrouse guidelines.

**Special management areas:**

Proposed Red Knoll (formerly Tucker Hill) ACEC exists within the allotment.

■ Adjust allotment management, including levels and areas of authorized use, seasons of use, and grazing system, as required by proposed ACEC management plan.

<b>Number: 00405</b>		<b>Name: COYOTE CREEK<sup>1</sup></b>	
<b>General</b>		<b>Grazing information (AUM's)</b>	<b>Other forage demands (AUM's)</b>
Public acres:	2,395	Active preference:	Bighorn sheep:
Other acres:	1,972	Suspended nonuse:	Deer/pronghorn: <u>90</u>
Category:		Total preference:	Elk:
			Other wildlife: <u>10</u>
			Wild horses:
			Total: <u>100</u>
<b>Identified resource conflicts/concerns:</b>		<b>Management direction:</b>	
<b>Range/livestock management:</b>			
Livestock distribution/management.		■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.	
Improve/maintain range condition.		■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.	
<b>Plant communities/vegetation:</b>			
Juniper encroachment is impacting ecological conditions and quaking aspen/bitterbrush stands.		■ Restore productivity and biodiversity in juniper and quaking aspen/bitterbrush stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Manage quaking aspen to maintain age class diversity and allow for species reestablishment.	
Noxious weed encroachment: medusahead.		■ Develop/implement a medusahead management strategy.	
Special status plant species and habitat present: long-flowered snowberry.		■ Protect special status species and habitat from BLM-authorized activities.	
<b>Watershed/riparian/fisheries:</b>			
Grazing might be affecting surface water quality.		■ Improve surface water quality to state standards or better where BLM-authorized grazing is having a negative effect.	
<b>Wildlife/wildlife habitat:</b>			
Special status animal species occurs within the allotment: greater sage-grouse.		■ Implement interim greater sage-grouse guidelines.	

<sup>1</sup> Coyote Creek Allotment is a proposed allotment; the management category, season of use, grazing system, and AUM allocations will be determined at a later date.

Number: 00406		Name: WEST CLOVER FLAT			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	748	Active preference:	15	Bighorn sheep:	0
Other acres:	2,776	Suspended nonuse:	0	Deer/pronghorn:	1
Category:	M	Total preference:	15	Elk:	0
				Other wildlife:	1
				Wild horses:	0
				Total:	2

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Maintain/improve forage production.

■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.

Grazing capacity needs review.

■ Adjust licensed livestock use, if necessary.

**Plant communities/vegetation:**

Noxious weed encroachment:  
medusahead.

■ Develop/implement a medusahead management strategy.

**Watershed/riparian/fisheries:**

Grazing might be affecting surface water  
quality.

■ Improve surface water quality to state standards or better where BLM-authorized grazing is having a negative effect.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

Special status animal species occurs within  
the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

**Special management areas:**

Proposed Red Knoll (formerly Tucker Hill)  
ACEC exists within the allotment.

■ Adjust allotment management, including levels and areas of authorized use, seasons of use, and grazing system, as required by proposed ACEC management plan.



Number: 00407		Name: CLOVER FLAT			
General		Grazing information (AUM's)		Other forage demands (AUM's)	
Public acres:	2,521	Active preference:	200	Bighorn sheep:	0
Other acres:	4,851	Suspended nonuse:	0	Deer/pronghorn:	35
Category:	M	Total preference:	200	Elk:	0
				Other wildlife:	5
				Wild horses:	0
				Total:	40

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Maintain/improve forage production.

■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.

No spring grazing use.

■ Implement change from no grazing to spring use on Moss Creek.

**Plant communities/vegetation:**

Juniper encroachment is impacting ecological conditions and quaking aspen/bitterbrush stands.

■ Restore productivity and biodiversity in juniper and quaking aspen/bitterbrush stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Manage quaking aspen to maintain age class diversity and allow for species reestablishment.

Noxious weed encroachment: medusahead.

■ Develop/implement a medusahead management strategy.

**Watershed/riparian/fisheries:**

Grazing might be affecting surface water quality.

■ Improve surface water quality to state standards or better where BLM-authorized grazing is having a negative effect.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

**Special management areas:**

Proposed Red Knoll (formerly Tucker Hill) ACEC exists within the allotment.

■ Adjust allotment management, including levels and areas of authorized use, seasons of use, and grazing system, as required by proposed ACEC management plan.

Number: 00410		Name: TIM LONG CREEK			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	340	Active preference:	15	Bighorn sheep:	0
Other acres:	1,155	Suspended nonuse:	0	Deer/pronghorn:	1
Category:	C	Total preference:	15	Elk:	0
				Other wildlife:	1
				Wild horses:	0
				Total:	2
Identified resource conflicts/concerns:		Management direction:			
Range/livestock management:					
Livestock distribution/management.		■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.			
Plant communities/vegetation:					
Noxious weed encroachment: medusahead.		■ Develop/implement a medusahead management strategy.			
Watershed/riparian/fisheries:					
Grazing might be affecting surface water quality.		■ Improve surface water quality to state standards or better where BLM-authorized grazing is having a negative effect.			
Avery Creek needs a management plan.		■ Conduct proper functioning condition assessment on Avery Creek and develop/implement appropriate management.			
Wildlife/wildlife habitat:					
Mule deer winter range.		■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.			
Special status animal species occurs within the allotment: greater sage-grouse.		■ Implement interim greater sage-grouse guidelines.			

Number: 00411		Name: JONES CANYON			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	636	Active preference:	13	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	1
Category:	C	Total preference:	13	Elk:	0
				Other wildlife:	1
				Wild horses:	0
				Total:	2
Identified resource conflicts/concerns:		Management direction:			
Range/livestock management:					
Livestock distribution/management.		■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.			
Plant communities/vegetation:					
Noxious weed encroachment: medusahead.		■ Develop/implement a medusahead management strategy.			
Special status plant species habitat present: nodding melic grass.		■ Protect special status species/habitat from BLM-authorized activities.			
Watershed/riparian/fisheries:					
Grazing might be affecting surface water quality.		■ Improve surface water quality to state standards or better where BLM-authorized grazing is having a negative effect.			
Wildlife/wildlife habitat:					
Mule deer winter range.		■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.			
Special status animal species occurs within the allotment: greater sage-grouse.		■ Implement interim greater sage-grouse guidelines.			

Number: 00412		Name: FIR TIMBER BUTTE			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	3,462	Active preference:	58	Bighorn sheep:	30
Other acres:	3,172	Suspended nonuse:	0	Deer/pronghorn:	<u>28</u>
Category:	M	Total preference:	58	Elk:	0
				Other wildlife:	2
				Wild horses:	0
				Total:	60

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

BLM land is located outside the allotment.

■ Improve grazing management by adjusting fences to encompass allotment-associated BLM land.

**Plant communities/vegetation:**

Juniper encroachment is impacting ecological conditions.

■ Restore productivity and biodiversity in juniper stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire.

Noxious weed encroachment: medusahead.

■ Develop/implement a medusahead management strategy.

Special status plant species and habitat present: nodding melic grass.

■ Manage to protect special status and cultural plant species (nodding melic grass) and habitat.

**Watershed/riparian/fisheries:**

Grazing might be affecting surface water quality.

■ Improve surface water quality to state standards or better where BLM-authorized grazing is having a negative effect.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for bighorn sheep.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Number: 00415		Name: BRIGGS GARDEN			
General		Grazing information (AUM's)		Other forage demands (AUM's)	
Public acres:	785	Active preference:	42	Bighorn sheep:	35
Other acres:	899	Suspended nonuse:	0	Deer/pronghorn:	5
Category:	C	Total preference:	42	Elk:	0
				Other wildlife:	2
				Wild horses:	0
				Total:	42

**Identified resource conflicts/concerns:**
**Management direction:**
**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

**Plant communities/vegetation:**

Juniper encroachment is impacting ecological conditions.

■ Restore productivity and biodiversity in juniper stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire.

Noxious weed encroachment: medusahead.

■ Develop/implement a medusahead management strategy.

**Watershed/riparian/fisheries:**

Grazing might be affecting surface water quality.

■ Improve surface water quality to state standards or better where BLM-authorized grazing is having a negative effect.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Number: 00416		Name: WHITE ROCK			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	565	Active preference:	10	Bighorn sheep:	10
Other acres:	438	Suspended nonuse:	0	Deer/pronghorn:	1
Category:	C	Total preference:	10	Elk:	0
				Other wildlife:	1
				Wild horses:	0
				Total:	12
Identified resource conflicts/concerns:		Management direction:			
Range/livestock management:					
Livestock distribution/management.		■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.			
Plant communities/vegetation:					
Juniper encroachment is impacting ecological conditions.		■ Restore productivity and biodiversity in juniper stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire.			
Noxious weed encroachment: medusahead.		■ Develop/implement a medusahead management strategy.			
Watershed/riparian/fisheries:					
Grazing might be affecting surface water quality.		■ Improve surface water quality to state standards or better where BLM-authorized grazing is having a negative effect.			
Wildlife/wildlife habitat:					
Mule deer winter range.		■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.			
Special status animal species occurs within the allotment: greater sage-grouse.		■ Implement interim greater sage-grouse guidelines.			

Number: 00418		Name: SQUAW LAKE			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	43,269	Active preference:	834	Bighorn sheep:	0
Other acres:	520	Suspended nonuse:	0	Deer/pronghorn:	80
Category:	M	Total preference:	834	Elk:	0
				Other wildlife:	16
				Wild horses:	69
				Total:	165
Identified resource conflicts/concerns:		Management direction:			
Range/livestock management:					
Livestock distribution/management.		■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.			
Improve/maintain range condition.		■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.			
Grazing is poorly distributed.		■ Modify grazing and improve distribution; consider adjustments to season of use and range improvement projects such as fencing.			
Plant communities/vegetation:					
Juniper encroachment is impacting ecological conditions.		■ Restore productivity and biodiversity in juniper stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire.			
Noxious weed encroachment.		■ Implement LRA-wide noxious weed plan/environmental assessment.			
Special status plant species occur within the allotment: Cusick's buckwheat and snowline cymopterus.		■ Protect special status species from BLM-authorized activities.			
Wild horses:					
Paisley Herd Management Area boundary needs modification.		■ Modify herd management area for 0420 and west half of 0418.			
Wildlife/wildlife habitat:					
Mule deer winter range.		■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.			
Special status animal species occurs within the allotment: greater sage-grouse.		■ Implement interim greater sage-grouse guidelines.			
Special management areas:					
Proposed Black Hills ACEC exists within allotment.		■ Adjust allotment management, including levels and areas of authorized use, seasons of use, and grazing system, as required by ACEC management plan.			

Number: 00419		Name: ST. PATRICKS			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	23,460	Active preference:	750	Bighorn sheep:	0
Other acres:	1,240	Suspended nonuse:	0	Deer/pronghorn:	50
Category:	M	Total preference:	750	Elk:	0
				Other wildlife:	3
				Wild horses:	39
				Total:	92

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Currently, no summer grazing use is authorized.

■ Modify the term grazing permit to include spring/summer grazing if necessary to implement a new grazing system.

**Plant communities/vegetation:**

Noxious weed encroachment.

■ Implement LRA-wide noxious weed plan/environmental assessment.

There are special status and cultural plant species.

■ Manage to protect special status and cultural plant species and habitat.

Special status plant species occurs within the allotment: snowline cymopterus.

■ Protect special status species from BLM-authorized activities. Implement interim greater sage-grouse guidelines.

**Wildlife/wildlife habitat:**

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.



Number: 00420		Name: EGLI RIM			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	21,052	Active preference:	925	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	20
Category:	M	Total preference:	925	Elk:	0
				Other wildlife:	11
				Wild horses:	14
				Total:	45

**Identified resource conflicts/concerns:**
**Management direction:**
**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Maintain/improve forage production.

■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.

Carrying capacity and season of use are being tested.

■ Finalize carrying capacity and season of use.

Reallocate grazing use from Table Rock 0714 allotment to 0420.

■ Allocate AUM's and increase use on the seeding in 0420.

**Plant communities/vegetation:**

Noxious weed encroachment.

■ Develop LRA-wide noxious weed plan/environmental assessment.

**Wild horses:**

Paisley Herd Management Area boundary needs modification.

■ Modify herd management area for 0420 and west half of 0418.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Number: 00421		Name: ROSEBUD			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	10,640	Active preference:	158	Bighorn sheep:	0
Other acres:	2,040	Suspended nonuse:	0	Deer/pronghorn:	3
Category:	M	Total preference:	158	Elk:	0
				Other wildlife:	3
				Wild horses:	0
				Total:	6

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

General.

- Continue existing management of Rosebud Habitat Management Plan. The goals and objectives are:

Goal 1: To reestablish a functioning wetland ecosystem, containing both wetland and associated upland components, on the 12,120 acres of public land within the habitat management plan area.

Objective 1: Within 6 years of implementation, enhance/improve the ecological condition on 609 acres of existing wetlands (1987 National Wetland Inventory) from 100% low-seral stage to at least 5% high-seral stage, 40% mid-seral stage, and 55% low-seral stage; and within 12 years to at least 24% high-seral stage, 35% mid-seral stage, and 40% low-seral stage.

Objective 2: Within 10 years of implementation, restore wetland habitats on 264 acres where those habitats have been converted to upland vegetation through past land-use activities.

Objective 3: Within 6 years of full implementation of the work necessary to achieve Objective 2, attain an ecological condition in the wetland vegetal communities that is at least 24% high-seral stage, 35% mid-seral stage, and 40% low-seral stage.

Goal 2: To improve and enhance the overall biotic diversity of the wetland and associated upland ecosystem on the 12,120 acres of public land within the habitat management plan area by providing habitats for the greatest diversity of water-related species at the highest densities consistent with maintaining that diversity.

Objective 1: Within 5 years of full implementation, maintain, enhance, and develop sufficient nesting, feeding, and brooding habitats to support a minimum breeding population of 200 pairs of deep-water emergent marsh nesting species (canvasback, redhead, ruddy duck, pied-billed and Clark's grebe, black tern, least bittern, and Virginia rail).

Objective 2: Within 5 years of implementation, maintain, enhance, and develop sufficient nesting, feeding and brooding habitats to support a minimum breeding population of 300 pairs of (teal, lesser scaup, Wilson's phalarope, eared grebe, white-faced ibis, American bittern, coot, and sora rail).

Objective 3: Within 5 years of full implementation, maintain, enhance, and develop sufficient nesting, feeding, and brooding habitats to support a minimum breeding population of 300 pairs of intermingled marsh, meadow, and upland habitats nesting species (mallard, teal, gadwall, greater sandhill crane, Great Basin Canada goose, northern shoveler, green-winged teal, willet, and common snipe).

Objective 4: Maintain, enhance, and develop sufficient meadow spring and seep feeding and brooding habitats to support a minimum nesting population of 25 pairs of western snowy plovers within 5 years of full implementation.

Livestock distribution/management.

- Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

- Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Maintain/improve current status of habitat management plan.

**Plant communities/vegetation:**

Noxious weed encroachment.

- Implement a noxious weed management strategy.

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**Number: 00421 [CONTINUED]**

**Name: ROSEBUD**

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***Wildlife/wildlife habitat:***

Special status animal species occurs within the allotment: greater sage-grouse.

- Implement interim greater sage-grouse guidelines.

***Special management areas:***

Diablo Mountain WSA occurs within the allotment.

- Manage the WSA under the wilderness IMP.

Number: 00422		Name: PAISLEY FLAT			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	4,549	Active preference:	585	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	15
Category:	M	Total preference:	585	Elk:	0
				Other wildlife:	5
				Wild horses:	0
				Total:	20

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

- |                                     |   |
|-------------------------------------|---|
| Livestock distribution/management.  | ■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise. |
| Improve/maintain range condition.   | ■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.  |
| Maintain/improve forage production. | ■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.  |
| Grazing capacity needs review.      | ■ Adjust licensed livestock use, if necessary.  |

**Plant communities/vegetation:**

- |                            |   |
|----------------------------|---|
| Noxious weed encroachment. | ■ Develop/implement a noxious weed management strategy. |
|----------------------------|---|

**Wild horses:**

- |   |  |
|---|--|
| Maintain/improve the condition of the Paisley Herd Management Area. | ■ Remove wild horses outside of the Paisley Herd Management Area wherever found. |
|---|--|

**Wildlife/wildlife habitat:**

- |   |   |
|---|---|
| Special status animal species occurs within the allotment: greater sage-grouse. | ■ Implement interim greater sage-grouse guidelines. |
|---|---|

Number: 00423		Name: HILL FIELD			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	4,198	Active preference:	238	Bighorn sheep:	150
Other acres:	1,140	Suspended nonuse:	0	Deer/pronghorn:	80
Category:	M	Total preference:	238	Elk:	0
				Other wildlife:	10
				Wild horses:	0
				Total:	240
Identified resource conflicts/concerns:		Management direction:			
Range/livestock management:					
Livestock distribution/management.		■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.			
Improve/maintain range condition.		■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.			
Grazing capacity needs review.		■ Adjust licensed livestock use if necessary.			
Plant communities/vegetation:					
Juniper encroachment is impacting ecological conditions.		■ Restore productivity and biodiversity in juniper stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire.			
Noxious weed encroachment: medusahead.		■ Develop/implement a medusahead management strategy.			
Watershed/riparian/fisheries:					
Grazing might be affecting surface water quality.		■ Improve surface water quality to state standards or better where BLM-authorized grazing is having a negative effect.			
Wildlife/wildlife habitat:					
Mule deer winter range.		■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.			
Allocate forage for bighorn sheep.		■ Monitor population expansion to ensure that sufficient forage and habitat are available.			
Special status animal species occurs within the allotment: greater sage-grouse.		■ Implement interim greater sage-grouse guidelines.			

Number: 00424		Name: WEST LAKE			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	6,886	Active preference:	550	Bighorn sheep:	70
Other acres:	320	Suspended nonuse:	0	Deer/pronghorn:	110
Category:	M	Total preference:	550	Elk:	0
				Other wildlife:	10
				Wild horses:	0
				Total:	190

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

- |  |   |
|--|---|
| Livestock distribution/management.       | ■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise. |
| Improve/maintain range condition.        | ■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.  |
| Maintain/improve forage production.      | ■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.  |
| Grazing capacity needs review.           | ■ Adjust licensed livestock use, if necessary.  |
| Monitor fences to protect ACEC values.   | ■ Maintain fences to protect Lake Abert ACEC.   |
| Livestock effects on microbiotic crusts. | ■ Establish monitoring sites to research livestock effects.   |

**Wildlife/wildlife habitat:**

- |   |   |
|---|---|
| Special status animal species occurs within the allotment: greater sage-grouse. | ■ Implement interim greater sage-grouse guidelines.   |
| No forage allocated for bighorn sheep.  | ■ Allocate AUM's to future/existing populations. Monitor population expansion to ensure that sufficient forage and habitat are available. |

Number: 00425		Name: PIKE RANCH			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	4,560	Active preference:	95	Bighorn sheep:	0
Other acres:	1,600	Suspended nonuse:	0	Deer/pronghorn:	2
Category:	M	Total preference:	95	Elk:	0
				Other wildlife:	3
				Wild horses:	0
				Total:	5

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Livestock grazing associated with private land.

■ Continue memorandum of understanding with private land owner/permittee.

**Plant communities/vegetation:**

Noxious weed encroachment.

■ Implement a noxious weed management strategy.

**Wildlife/wildlife habitat:**

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Improve wildlife management and other ACEC values.

■ Consider land exchanges in 0425 to enhance wildlife management and other ACEC values.

**Special management areas:**

Lake Abert ACEC exists within the allotment.

■ Implement Lake Abert ACEC plan objectives identified in the August 12, 1996 record of decision.

Number: 00426		Name: FIVE MILE BUTTE			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	41,815	Active preference:	1,021	Bighorn sheep:	100
Other acres:	1,216	Suspended nonuse:	0	Deer/pronghorn:	105
Category:	I	Total preference:	1,021	Elk:	0
				Other wildlife:	15
				Wild horses:	0
				Total:	220

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

- |  |   |
|--|---|
| Livestock distribution/management.                   | ■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise. |
| Improve/maintain range condition.                    | ■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.  |
| Maintain/improve forage production.                  | ■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.  |
| Livestock impacts are unknown to microbiotic crusts. | ■ Initiate studies to determine livestock impacts to microbiotic crust.   |

**Wild horses:**

- |   |  |
|---|--|
| Maintain/improve the condition of the Paisley Herd Management Area. | ■ Remove wild horses outside of the Paisley Herd Management Area wherever found. |
|---|--|

**Wildlife/wildlife habitat:**

- |   |  |
|---|--|
| No forage allocated for bighorn sheep.  | ■ Monitor population expansion to ensure that sufficient forage and habitat are available. |
| Special status animal species occurs within the allotment: greater sage-grouse. | ■ Implement interim greater sage-grouse guidelines.  |



Number: 00427		Name: XL			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	37,003	Active preference:	4,220	Bighorn sheep:	80
Other acres:	190	Suspended nonuse:	0	Deer/pronghorn:	150
Category:	I	Total preference:	4,220	Elk:	0
				Other wildlife:	25
				Wild horses:	0
				Total:	255

**Identified resource conflicts/concerns:**
**Management direction:**
**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Maintain/improve forage production.

■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.

**Plant communities/vegetation:**

Noxious weed encroachment.

■ Develop/implement a noxious weed management strategy.

Special status plant species occurs within the allotment: desert allocarya (extirpated).

■ Protect special status species/habitat from BLM-authorized activities, and initiate plan for reintroduction of desert allocarya.

**Wild horses:**

Maintain and improve the condition of the Paisley Herd Management Area.

■ Remove wild horses outside of the Paisley Herd Management Area.

**Wildlife/wildlife habitat:**

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement the interim greater sage-grouse guidelines.

No forage allocated for bighorn sheep.

■ Allocate AUM's to future/existing populations. Monitor population expansion to ensure that sufficient forage and habitat are available.

**Special management areas:**

Lake Abert ACEC exists within the allotment.

■ Maintain fences to protect ACEC values around Lake Abert (primarily riparian).

Number: 00428		Name: SHEEPROCK			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	144,025	Active preference:	4,000	Bighorn sheep:	220
Other acres:	4,460	Suspended nonuse:	0	Deer/pronghorn:	100
Category:	I	Total preference:	4,000	Elk:	0
				Other wildlife:	17
				Wild horses:	490
				Total:	827

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

- |  |   |
|--|---|
| Livestock distribution/management.       | ■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise. |
| Improve/maintain range condition.        | ■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.  |
| Maintain/improve forage production.      | ■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.  |
| Livestock effects on microbiotic crusts. | ■ Establish monitoring sites to research livestock effects.   |

**Plant communities/vegetation:**

- |   |  |
|---|--|
| Portions of the area in the Great Basin ecosystem are in unsatisfactory condition and cannot be healed through management strategies. | ■ Restore portions of the Great Basin ecosystem to promote plant community diversity, allowing the communities to be more resilient to invasive species and disturbance. |
|---|--|

**Wild horses:**

- |   |   |
|---|---|
| Maintain/improve the condition of the wild horse in the herd management area. | ■ Implement wild horse herd management area plan and improve fences along the east boundary to keep the horses in the area. Increase the forage allocation for wild horses to 936 AUM's, and adjust as necessary. |
|---|---|

**Watershed/riparian/fisheries:**

- |  |   |
|--|---|
| Improve upland watershed and ecological condition. | ■ Improve upland watershed and ecological condition by vegetative treatment, including seeding; opportunities for restoration of poor range condition in this area. |
|--|---|

**Wildlife/wildlife habitat:**

- |   |  |
|---|--|
| No forage allocated for bighorn sheep.  | ■ Monitor population expansion to ensure that sufficient forage and habitat are available. |
| Special status animal species occurs within the allotment: greater sage-grouse. | ■ Implement interim greater sage-grouse guidelines.  |

**Special management areas:**

- |  |                                    |
|--|------------------------------------|
| Diablo Peak WSA occurs within the allotment. | ■ Manage WSA under wilderness IMP. |
|--|------------------------------------|

<b>Number: 00429</b>		<b>Name: TWIN LAKES</b>	
<b>General</b>		<b>Grazing information (AUM's)</b>	<b>Other forage demands (AUM's)</b>
Public acres:	17,050	Active preference2Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0
Category:	M	Total preference:	2,22
			Deer/pronghorn: 135
			Elk: 0
			Other wildlife: 15
			Wild horses: 0
			Total: 150
<b>Identified resource conflicts/concerns:</b>		<b>Management direction:</b>	
<b>Range/livestock management:</b>			
<u>Livestock distribution/management.</u>		■ <u>Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.</u>	
<u>Improve/maintain range condition.</u>		■ <u>Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.</u>	
<u>Maintain/improve forage production.</u>		■ <u>Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.</u>	
<u>Livestock effects on microbiotic crusts.</u>		■ <u>Establish monitoring sites to research livestock effects.</u>	
<b>Plant communities/vegetation:</b>			
<u>Noxious weed encroachment.</u>		■ <u>Develop/implement a noxious weed management strategy.</u>	
<b>Wild horses:</b>			
<u>Maintain/improve the condition of the Paisley Herd Management Area.</u>		■ <u>Remove wild horses outside of the Paisley Herd Management Area wherever found.</u>	
<b>Wildlife/wildlife habitat:</b>			
<u>Special status animal species occurs within the allotment: greater sage-grouse.</u>		■ <u>Implement interim greater sage-grouse guidelines.</u>	

Number: 00430		Name: SOUTH POVERTY			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	35,382	Active preference:	4,201	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	75
Category:	M	Total preference:	4,201	Elk:	0
				Other wildlife:	5
				Wild horses:	0
				Total:	80

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

- |  |   |
|--|---|
| Livestock distribution/management.       | ■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise. |
| Improve/maintain range condition.        | ■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.  |
| Maintain/improve forage production.      | ■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.  |
| Livestock effects on microbiotic crusts. | ■ Establish monitoring sites to research livestock effects.   |

**Plant communities/vegetation:**

- |                            |   |
|----------------------------|---|
| Noxious weed encroachment. | ■ Develop/implement a noxious weed management strategy. |
|----------------------------|---|

**Wild horses:**

- |   |   |
|---|---|
| Maintain/improve the condition of the Paisley Herd Management Area. | ■ Remove wild horses outside of the Paisley Herd Management Area. |
|---|---|

**Wildlife/wildlife habitat:**

- |   |   |
|---|---|
| Special status animal species occurs within the allotment: greater sage-grouse. | ■ Implement interim greater sage-grouse guidelines. |
|---|---|

Number: 00431		Name: NARROWS			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	8,486	Active preference:	275	Bighorn sheep:	100
Other acres:	180	Suspended nonuse:	0	Deer/pronghorn:	20
Category:	M	Total preference:	275	Elk:	0
				Other wildlife:	20
				Wild horses:	0
				Total:	140

**Identified resource conflicts/concerns:**

**Management direction:**

***Range/livestock management:***

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Maintain/improve forage production.

■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.

Grazing capacity needs review.

■ Adjust licensed livestock use, if necessary.

Livestock effects on microbiotic crusts.

■ Establish monitoring sites to research livestock effects.

***Wild horses:***

Maintain/improve the condition of the Paisley Herd Management Area.

■ Remove wild horses outside of the Paisley Herd Management Area.

***Wildlife/wildlife habitat:***

No forage allocated for bighorn sheep.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Number: 00432		Name: COLEMAN SEEDING			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	5,839	Active preference:	920	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	30
Category:	M	Total preference:	920	Elk:	0
				Other wildlife:	5
				Wild horses:	0
				Total:	35

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

- |  |   |
|--|---|
| Livestock distribution/management.       | ■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise. |
| Improve/maintain range condition.        | ■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.  |
| Maintain/improve forage production.      | ■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.  |
| Grazing capacity needs review.           | ■ Adjust licensed livestock use, if necessary.  |
| Livestock effects on microbiotic crusts. | ■ Establish monitoring sites to research livestock effects.   |

**Plant communities/vegetation:**

- |                            |   |
|----------------------------|---|
| Noxious weed encroachment. | ■ Develop/implement a noxious weed management strategy. |
|----------------------------|---|

**Wild horses:**

- |   |   |
|---|---|
| Maintain/improve the condition of the Paisley Herd Management Area. | ■ Remove wild horses outside of the Paisley Herd Management Area. |
|---|---|

**Wildlife/wildlife habitat:**

- |   |   |
|---|---|
| Special status animal species occurs within the allotment: greater sage-grouse. | ■ Implement interim greater sage-grouse guidelines. |
|---|---|

**Special management areas:**

- |  |  |
|--|--|
| Lake Abert ACEC exists within the allotment. | ■ Maintain fences to protect ACEC values around Lake Abert (primarily riparian). |
|--|--|

Number: 00433		Name: EAST JUG MOUNTAIN			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	12,325	Active preference:	2,236	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	70
Category:	M	Total preference:	2,236	Elk:	0
				Other wildlife:	80
				Wild horses:	0
				Total:	80

<b>Identified resource conflicts/concerns:</b>		<b>Management direction:</b>	
<b>Range/livestock management:</b>			
Livestock distribution/management.		■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.	
Improve/maintain range condition.		■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.	
Maintain/improve forage production.		■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.	
Grazing capacity needs review.		■ Adjust licensed livestock use, if necessary.	
<b>Plant communities/vegetation:</b>			
Noxious weed encroachment.		■ Develop/implement a noxious weed management strategy.	
<b>Wild horses:</b>			
Maintain/improve the condition of the Paisley Herd Management Area.		■ Remove wild horses outside of the Paisley Herd Management Area.	
<b>Wildlife/wildlife habitat:</b>			
Special status animal species occurs within the allotment: greater sage-grouse.		■ Implement interim greater sage-grouse guidelines.	

Number: 00435		Name: SHALE ROCK			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	12,853	Active preference:	1,220	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	<u>50</u>
Category:	I	Total preference:	1,220	Elk:	0
				Other wildlife:	<u>10</u>
				Wild horses:	0
				Total:	<u>60</u>

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

- |  |   |
|--|---|
| Livestock distribution/management.       | ■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise. |
| Improve/maintain range condition.        | ■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.  |
| Maintain/improve forage production.      | ■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.  |
| Grazing capacity needs review.           | ■ Adjust licensed livestock use, if necessary.  |
| Livestock effects on microbiotic crusts. | ■ Establish monitoring sites to research livestock effects.   |

**Plant communities/vegetation:**

- |                            |   |
|----------------------------|---|
| Noxious weed encroachment. | ■ Develop/implement a noxious weed management strategy. |
|----------------------------|---|

**Wildlife/wildlife habitat:**

- |   |   |
|---|---|
| Special status animal species occurs within the allotment: greater sage-grouse. | ■ Implement interim greater sage-grouse guidelines. |
|---|---|

**Special management areas:**

- |  |  |
|--|--|
| Lake Abert ACEC exists within the allotment. | ■ Maintain fences to protect ACEC values around Lake Abert (primarily riparian). |
|--|--|



Number: 00501		Name: FRF FLYNN			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	2,780	Active preference:	120	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	50
Category:	C	Total preference:	120	Elk:	0
				Other wildlife:	5
				Wild horses:	0
				Total:	55
Identified resource conflicts/concerns:		Management direction:			
Range/livestock management:					
Livestock distribution/management.		■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.			
Plant communities/vegetation:					
Noxious weed encroachment.		■ Implement the objectives for the Warner Basin Weed Management Area plan.			
Watershed/riparian/fisheries:					
No objectives for riparian habitat/stream channels.		■ Develop riparian and stream channel/desired future conditions objectives based on riparian and stream condition classifications for streams not in desired future condition.			
No conservation strategy for redband trout.		■ Develop/implement conservation agreement for redband trout.			
No recovery plan for other fish listed in the Warner Basin.		■ Implement recovery plan for other listed fish in the Warner Basin.			
Wildlife/wildlife habitat:					
Mule deer winter range.		■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.			
Special status animal species occurs within the allotment: greater sage-grouse.		■ Implement interim greater sage-grouse guidelines.			

Number: 00502		Name: FRF FITZGERALD			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	5,150	Active preference:	329	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	50
Category:	C	Total preference:	329	Elk:	15
				Other wildlife:	10
				Wild horses:	0
				Total:	75
Identified resource conflicts/concerns:		Management direction:			
Range/livestock management:					
Livestock distribution/management.		■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.			
Plant communities/vegetation:					
Noxious weed encroachment.		■ Implement the objectives for the Warner Basin Weed Management Area plan.			
Watershed/riparian/fisheries:					
No objectives for riparian habitat/stream channels.		■ Develop riparian and stream channel/desired future conditions objectives based on riparian and stream condition classifications for streams not in desired future condition.			
Exclosure maintenance.		■ Maintain existing exclosures, including those along Twelvemile Creek.			
Wildlife/wildlife habitat:					
Mule deer winter range.		■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.			
No forage allocated for elk.		■ Monitor population expansion to ensure that sufficient forage and habitat are available.			
Special status animal species occurs within the allotment: greater sage-grouse.		■ Implement interim greater sage-grouse guidelines.			

Number: 00503		Name: FRF TAYLOR			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	6,110	Active preference:	295	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	50
Category:	C	Total preference:	295	Elk:	15
				Other wildlife:	10
				Wild horses:	0
				Total:	75

**Identified resource conflicts/concerns:****Management direction:*****Range/livestock management:***

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

***Plant communities/vegetation:***

Noxious weed encroachment.

■ Implement the objectives for the Warner Basin Weed Management Area plan.

***Wildlife/wildlife habitat:***

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for elk.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Number: 00505		Name: FRF LYNCH			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	180	Active preference:	20	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	1
Category:	C	Total preference:	20	Elk:	0
				Other wildlife:	1
				Wild horses:	0
				Total:	2
Identified resource conflicts/concerns:		Management direction:			
Range/livestock management:					
Livestock distribution/management.		■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.			
Plant communities/vegetation:					
Noxious weed encroachment.		■ Implement the objectives for the Warner Basin Weed Management Area plan.			
Watershed/riparian/fisheries:					
No objectives for riparian habitat/stream channels.		■ Develop riparian and stream channel/desired future conditions objectives based on riparian and stream condition classifications for streams not in desired future condition.			
Exclosure maintenance.		■ Maintain existing exclosures, including those along Twelvemile Creek.			
Wildlife/wildlife habitat:					
Mule deer winter range.		■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.			
No forage allocated for elk.		■ Monitor population expansion to ensure that sufficient forage and habitat are available.			
Special status animal species occurs within the allotment: greater sage-grouse.		■ Implement interim greater sage-grouse guidelines.			

Number: 00507		Name: FRF LAIRD			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	2,030	Active preference:	120	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	1
Category:	C	Total preference:	120	Elk:	0
				Other wildlife:	1
				Wild horses:	0
				Total:	2
Identified resource conflicts/concerns:		Management direction:			
Range/livestock managment:					
Livestock distribution/management.		■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.			
Plant communities/vegetation:					
Noxious weed encroachment.		■ Implement the objectives for the Warner Basin Weed Management Area plan.			
Wildlife/wildlife habitat:					
Special status animal species occurs within the allotment: greater sage-grouse.		■ Implement interim greater sage-grouse guidelines.			

Number: 00508		Name: ERE ROCK CREEK RANCH			
General		Grazing information (AUM's)		Other forage demands (AUM's)	
Public acres:	280	Active preference:	9	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	1
Category:	C	Total preference:	9	Elk:	0
				Other wildlife:	1
				Wild horses:	0
				Total:	2

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

- Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

**Plant communities/vegetation:**

Noxious weed encroachment.

- Implement the objectives for the Warner Basin Weed Management Area plan.

**Wildlife/wildlife habitat:**

Special status animal species occurs within the allotment: greater sage-grouse.

- Implement interim greater sage-grouse guidelines.

Number: 00509		Name: COX BUTTE			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	38,340	Active preference:	1,196	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	124	Deer/pronghorn:	<u>50</u>
Category:	I	Total preference:	1,320	Elk:	0
				Other wildlife:	<u>13</u>
				Wild horses:	0
				Total:	63

**Identified resource conflicts/concerns:****Management direction:****Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Wildlife/wildlife management:**

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Number: 00510		Name: ORIJANA RIM			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	57,280	Active preference:	1,423	Bighorn sheep:	50
Other acres:	352	Suspended nonuse:	352	Deer/pronghorn:	80
Category:	I	Total preference:	1,775	Elk:	0
				Other wildlife:	20
				Wild horses:	0
				Total:	150

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

- Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

- Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Plant communities/vegetation:**

Status and distribution of special status plant species and cultural plants are unknown.

- Conduct inventory for special status species and cultural plant communities to determine spacial distribution, and grazing impacts.

**Wild horses:**

Maintain/improve the condition of the Warm Springs Herd Management Area.

- Remove wild horses outside of the Warm Springs Herd Management Area.

**Wildlife/wildlife habitat:**

No forage allocated for bighorn sheep.

- Monitor population expansion to ensure that sufficient forage and habitat are available.

Better habitat for bighorn sheep needed.

- Improve bighorn sheep habitat in Orijana Canyon area.

Special status animal species occurs within the allotment: greater sage-grouse.

- Implement interim greater sage-grouse guidelines.

**Special management areas:**

Orijana WSA occurs within the allotment.

- Manage WSA under the wilderness IMP.



Number: 00511		Name: NORTHEAST WARNER			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	139,019	Active preference:	6,151	Bighorn sheep:	120
Other acres:	234	Suspended nonuse:	234	Deer/pronghorn:	544
Category:	I	Total preference:	6,385	Elk:	0
				Other wildlife:	6
				Wild horses:	0
				Total:	670
Identified resource conflicts/concerns:		Management direction:			
Range/livestock management:					
Livestock distribution/management.		■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.			
Improve/maintain range condition.		■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.			
Plant communities/vegetation:					
Noxious weed encroachment.		■ Implement the objectives for the Warner Basin Weed Management Area plan.			
Status and distribution of special status plant species and cultural plants are unknown.		■ Conduct inventory for special status species and cultural plant communities to determine spacial distribution, and grazing impacts.			
Wild horses:					
Maintain/improve the condition of the Warm Springs Herd Management Area.		■ Remove wild horses outside of the Warm Springs Herd Management Area.			
Wildlife/wildlife habitat:					
No forage allocated for bighorn sheep.		■ Monitor population expansion to ensure that sufficient forage and habitat are available.			
Special status animal species occurs within the allotment: greater sage-grouse.		■ Implement interim greater sage-grouse guidelines.			

Number: 00512		Name: NORTH BLUEJOINT			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	22,440	Active preference:	289	Bighorn sheep:	0
Other acres:	3,640	Suspended nonuse:	79	Deer/pronghorn:	<u>80</u>
Category:	I	Total preference:	368	Elk:	0
				Other wildlife:	<u>20</u>
				Wild horses:	0
				Total:	100

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

- Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

- Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Plant communities/vegetation:**

Noxious weed encroachment.

- Implement the objectives for the Warner Basin Weed Management Area plan.

**Wildlife/wildlife management:**

Special status animal species occurs within the allotment: greater sage-grouse.

- Implement interim greater sage-grouse guidelines.

**Special management areas:**

Orijana WSA occurs within the allotment.

- Manage to protect WSA values.

Number: 00514		Name: CORN LAKE			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	78,476	Active preference:	2,663	Bighorn sheep:	240
Other acres:	1,710	Suspended nonuse:	1,034	Deer/pronghorn:	124
Category:	I	Total preference:	3,697	Elk:	0
				Other wildlife:	16
				Wild horses:	0
				Total:	380

Identified resource conflicts/concerns:		Management direction:	
<i>Range/livestock management:</i>			
<u>Livestock distribution/management.</u>		■	<u>Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.</u>
<u>Improve/maintain range condition.</u>		■	<u>Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.</u>
<u>Maintain/improve forage production.</u>		■	<u>Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.</u>
<u>Grazing capacity needs review.</u>		■	<u>Adjust licensed livestock use, if necessary.</u>
<i>Plant communities/vegetation:</i>			
<u>Noxious weed encroachment.</u>		■	<u>Implement the objectives for the Warner Basin Weed Management Area plan.</u>
<i>Wildlife/wildlife management:</i>			
<u>Special status animal species occurs within the allotment: greater sage-grouse.</u>		■	<u>Implement interim greater sage-grouse guidelines.</u>

Number: 00515		Name: JUNIPER MOUNTAIN			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	91,720	Active preference:	3,621	Bighorn sheep:	40
Other acres:	760	Suspended nonuse:	796	Deer/pronghorn:	330
Category:	M	Total preference:	4,417	Elk:	60
				Other wildlife:	26
				Wild horses:	0
				Total:	456

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

- Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

- Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Livestock effects on microbiotic crusts.

- Continue monitoring microbiotic crust and maintain exclosure fences around study sites.

**Plant communities/vegetation:**

Noxious weed encroachment.

- Implement the objectives for the Warner Basin Weed Management Area plan.

Sensitive plant species Shelly's ivesia (*Ivesia rhyparia* var. *shellyi*) exists on the allotment.

- Monitor/manage grazing to protect sensitive plant species Shelly's ivesia (*Ivesia rhyparia* var. *shellyi*).

**Wildlife/wildlife habitat:**

No forage allocated for elk or bighorn sheep.

- Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

- Implement interim greater sage-grouse guidelines.

**Special management areas:**

Proposed Juniper Mountain ACEC exists within the allotment.

- Adjust allotment management, including levels and areas of authorized use, seasons of use, and grazing system, as required by proposed ACEC management plan.

Number: 00516		Name: RABBIT BASIN			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	32,211	Active preference:	1,846	Bighorn sheep:	0
Other acres:	400	Suspended nonuse:	0	Deer/pronghorn:	55
Category:	I	Total preference:	1,846	Elk:	0
				Other wildlife:	5
				Wild horses:	0
				Total:	60
Identified resource conflicts/concerns:		Management direction:			
Range/livestock management:					
Livestock distribution/management.		■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.			
Improve/maintain range condition.		■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.			
Maintain/improve forage production.		■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.			
Plant communities/vegetation:					
Noxious weed encroachment.		■ Implement the objectives for the Warner Basin Weed Management Area plan.			
Possibility of whitetop encroachment.		■ Control whitetop where it occurs.			
Wildlife/wildlife habitat:					
Special status animal species occurs within the allotment: greater sage-grouse.		■ Implement interim greater sage-grouse guidelines.			
Pronghorn winter range.		■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.			

Number: 00517		Name: COYOTE-COLVIN			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	123,038	Active preference:	5,091	Bighorn sheep:	30
Other acres:	15,002	Suspended nonuse:	0	Deer/pronghorn:	983
Category:	I	Total preference:	5,091	Elk:	75
				Other wildlife:	30
				Wild horses:	0
				Total:	1,105

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Maintain/improve forage production.

■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.

**Plant communities/vegetation:**

Juniper encroachment is impacting ecological conditions and quaking aspen/bitterbrush stands.

■ Restore productivity and biodiversity in juniper and quaking aspen/bitterbrush stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Manage quaking aspen to maintain age class diversity and allow for species reestablishment.

Noxious weed encroachment.

■ Implement the objectives for the Abert Rim and Warner Basin Weed Management Area plans.

Special status plant species habitats occur within the allotment: nodding melic grass (*Melica stricta*), prostrate buckwheat, four-winged milkvetch (*Astragalus tetrapterus*), long-flowered snowberry, and Columbia cress.

■ Protect special status species/habitat from BLM-authorized activities.

Conservation strategy for Columbia cress.

■ Continue management in accordance with existing conservation agreement.

**Watershed/riparian/fisheries:**

No objectives for riparian habitat/stream channels.

■ Develop riparian and stream channel/desired future conditions objectives based on riparian and stream condition classifications for streams not in desired future condition.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

No forage allocated for elk or bighorn sheep.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Limiting pronghorn habitat in less-than-satisfactory condition.

■ Maintain/enhance pronghorn winter habitat.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

**Special management areas:**

Lake Abert WSA is within the allotment.

■ Manage to protect WSA values.

Proposed Foley Lake and Fish Creek Rim ACEC's exist within the allotment.

■ Adjust allotment management, including levels and areas of authorized use, seasons of use, and grazing system, as required by proposed ACEC management plan.

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**Number: 00517 [CONTINUED]**

**Name: COYOTE-COLVIN**

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***Fire:***

Wildland fire hazards are at a high level.

- Conduct fuel treatments to reduce wildland fire hazards.

Number: 00518		Name: CLOVER CREEK			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	10,050	Active preference:	435	Bighorn sheep:	0
Other acres:	1,354	Suspended nonuse:	0	Deer/pronghorn:	96
Category:	M	Total preference:	435	Elk:	15
				Other wildlife:	4
				Wild horses:	0
				Total:	115

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Plant communities/vegetation:**

Juniper encroachment is impacting ecological conditions and quaking aspen/bitterbrush stands.

■ Restore productivity and biodiversity in juniper and quaking aspen/bitterbrush stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Manage quaking aspen to maintain age class diversity and allow for species reestablishment.

Noxious weed encroachment.

■ Implement the objectives for the Warner Basin Weed Management Area plan.

**Watershed/riparian/fisheries:**

No objectives for riparian habitat/stream channels.

■ Develop riparian and stream channel/desired future conditions objectives based on riparian and stream condition classifications for streams not in desired future condition.

**Wildlife/wildlife habitat:**

No forage allocated for elk.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

**Special management areas:**

Abert Rim WSA is within a portion of this allotment.

■ Manage to protect WSA values.



Number: 00519		Name: FISH CREEK			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	11,805	Active preference:	575	Bighorn sheep:	20
Other acres:	10,446	Suspended nonuse:	0	Deer/pronghorn:	20
Category:	I	Total preference:	575	Elk:	75
				Other wildlife:	24
				Wild horses:	0
				Total:	139

Identified resource conflicts/concerns:		Management direction:	
Range/livestock management:			
Livestock distribution/management.		■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.	
Improve/maintain range condition.		■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.	
Plant communities/vegetation:			
Juniper encroachment is impacting ecological conditions and quaking aspen/ bitterbrush stands.		■ Restore productivity and biodiversity in juniper and quaking aspen/bitterbrush stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Manage quaking aspen to maintain age class diversity and allow for species reestablishment.	
Noxious weed encroachment.		■ Implement the objectives for the Warner Basin Weed Management Area plan.	
Special status plant species habitats occur within the allotment: nodding melic grass and dwarf lousewort.		■ Protect special status species/habitat from BLM-authorized activities.	
Watershed/riparian/fisheries:			
No objectives for riparian habitat/stream channels.		■ Develop riparian and stream channel/desired future conditions objectives based on riparian and stream condition classifications for streams not in desired future condition.	
Project maintenance.		■ Maintain fence projects along Twelvemile for riparian habitat enhancement.	
Wildlife/wildlife habitat:			
Mule deer winter range.		■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.	
No forage allocated for elk.		■ Monitor population expansion to ensure that sufficient forage and habitat are available.	
Special status animal species habitat occurs within the allotment: greater sage-grouse.		■ Implement interim greater sage-grouse guidelines.	
Special management areas:			
Fish Creek Rim WSA is within a portion of this allotment.		■ Manage to protect WSA values.	

Number: 00520		Name: LYNCH-FLYNN			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	18,800	Active preference:	882	Bighorn sheep:	<u>110</u>
Other acres:	4,260	Suspended nonuse:	0	Deer/pronghorn:	<u>50</u>
Category:	I	Total preference:	882	Elk:	30
				Other wildlife:	5
				Wild horses:	0
				Total:	<u>195</u>

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Plant communities/vegetation:**

Juniper encroachment is impacting ecological conditions and quaking aspen/bitterbrush stands.

■ Restore productivity and biodiversity in juniper and quaking aspen/bitterbrush stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Manage quaking aspen to maintain age class diversity and allow for species reestablishment.

Noxious weed encroachment.

■ Implement the objectives for the Warner Basin Weed Management Area plan.

Special status plant species occur within the allotment: nodding melic grass and dwarf lousewort.

■ Protect special status species/habitat from BLM authorized activities.

**Watershed/riparian/fisheries:**

No objectives for riparian habitat/stream channels.

■ Develop riparian and stream channel/desired future conditions objectives based on riparian and stream condition classifications for streams not in desired future condition.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for elk.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

**Special management areas:**

Fish Creek Rim WSA (potential ACEC) is in the allotment.

■ Manage grazing in order to protect WSA values.

Number: 00521		Name: PRIDAY RESERVOIR			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	780	Active preference:	65	Bighorn sheep:	0
Other acres:	720	Suspended nonuse:	0	Deer/pronghorn:	120
Category:	M	Total preference:	65	Elk:	5
				Other wildlife:	19
				Wild horses:	0
				Total:	144

Identified resource conflicts/concerns:		Management direction:	
Range/livestock management:			
<u>Livestock distribution/management.</u>		■ <u>Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.</u>	
<u>Improve/maintain range condition.</u>		■ <u>Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.</u>	
Plant communities/vegetation:			
Noxious weed encroachment.		■ Implement the objectives for the Warner Basin Weed Management Area plan.	
Watershed/riparian/fisheries:			
No objectives for riparian habitat/stream channels.		■ Develop riparian and stream channel/desired future conditions objectives based on riparian and stream condition classifications for streams not in desired future condition.	
Wildlife/wildlife management:			
<u>Mule deer winter range.</u>		■ <u>Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.</u>	
No forage allocated for elk.		■ <u>Monitor population expansion to ensure that sufficient forage and habitat are available.</u>	
<u>Special status animal species occurs within the allotment: greater sage-grouse.</u>		■ <u>Implement interim greater sage-grouse guidelines.</u>	

Number: 00522		Name: ABERT SEEDING			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	9,200	Active preference:	2,619	Bighorn sheep:	<u>50</u>
Other acres:	320	Suspended nonuse:	0	Deer/pronghorn:	<u>55</u>
Category:	M	Total preference:	2,619	Elk:	0
				Other wildlife:	<u>5</u>
				Wild horses:	0
				Total:	<u>110</u>

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

- |  |   |
|--|---|
| Livestock distribution/management.           | ■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise. |
| Improve/maintain range condition.            | ■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.  |
| Maintain/improve forage production.          | ■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.  |
| Revise allotment management plan objectives. | ■ Bring forward objectives from existing allotment management plans; revise objectives where needed.  |

**Plant communities/vegetation:**

- |  |  |
|--|--|
| Noxious weed encroachment.                                   | ■ Implement the objectives for the Warner Basin Weed Management Area plan. |
| Possibility of whitetop and Mediterranean sage encroachment. | ■ Control whitetop and Mediterranean sage where they occur.                |

**Wildlife/wildlife management:**

- |   |   |
|---|---|
| Special status animal species occurs within the allotment: greater sage-grouse. | ■ Implement interim greater sage-grouse guidelines. |
|---|---|

Number: 00523		Name: WARNER LAKES			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	38,788	Active preference:	1,138	Bighorn sheep:	0
Other acres:	5,650	Suspended nonuse:	86	Deer/pronghorn:	40
Category:	I	Total preference:	1,224	Elk:	0
				Other wildlife:	10
				Wild horses:	0
				Total:	50
Identified resource conflicts/concerns:		Management direction:			
Range/livestock management:					
<u>Livestock distribution/management.</u>		■ <u>Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.</u>			
<u>Improve/maintain range condition.</u>		■ <u>Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.</u>			
Plant communities/vegetation:					
Noxious weed encroachment.		■ Implement the objectives for the Warner Basin Weed Management Area plan.			
Special status plant species and habitat present: verrucose sea-purslane.		■ Protect special status species/habitat from BLM-authorized activities.			
Watershed/riparian/fisheries:					
Fluctuations in water level.		■ Maintain existing fences around the core wetland area, due to water level fluctuations.			
Wildlife/wildlife habitat:					
<u>Special status animal species occurs within the allotment: greater sage-grouse.</u>		■ <u>Implement interim greater sage-grouse guidelines.</u>			
Special management areas:					
Warner Wetlands ACEC exists within the allotment.		■ Maintain fences to protect ACEC values around Warner Wetlands.			

Number: 00524		Name: LANE INDIVIDUAL			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	2,700	Active preference:	65	Bighorn sheep:	40
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	40
Category:	C	Total preference:	65	Elk:	0
				Other wildlife:	10
				Wild horses:	0
				Total:	90

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

- Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

**Plant communities/vegetation:**

Noxious weed encroachment.

- Implement the objectives for the Warner Basin Weed Management Area plan.

Status and location of special status species and cultural plant communities is unknown.

- Conduct inventory for special status species and cultural plant communities to determine distribution and grazing impacts.

**Wildlife/wildlife habitat:**

Mule deer winter range.

- Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for bighorn sheep.

- Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

- Implement interim greater sage-grouse guidelines.

Number: 00529		Name: SOUTH RABBIT HILLS			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	9,028	Active preference:	1,266	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	35
Category:	M	Total preference:	1,266	Elk:	0
				Other wildlife:	5
				Wild horses:	0
				Total:	40
Identified resource conflicts/concerns:		Management direction:			
Range/livestock management:					
Livestock distribution/management.		■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.			
Improve/maintain range condition.		■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.			
Maintain/improve forage production.		■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.			
Plant communities/vegetation:					
Noxious weed encroachment.		■ Implement the objectives for the Warner Basin Weed Management Area plan.			
Possibility of whitetop encroachment.		■ Control whitetop where it occurs.			
Wildlife/wildlife management:					
Special status animal species occurs within the allotment: greater sage-grouse.		■ Implement interim greater sage-grouse guidelines.			

Number: 00530		Name: EAST RABBIT HILLS			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	8,404	Active preference:	1,200	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	35
Category:	M	Total preference:	1,200	Elk:	0
				Other wildlife:	5
				Wild horses:	0
				Total:	40

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Maintain/improve forage production.

■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.

**Plant communities/vegetation:**

Noxious weed encroachment.

■ Implement the objectives for the Warner Basin Weed Management Area plan.

Possibility of whitetop encroachment.

■ Control whitetop where it occurs.

**Wildlife/wildlife habitat:**

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Pronghorn winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.



Number: 00531		Name: NORTH RABBIT HILLS			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	11,712	Active preference:	1,317	Bighorn sheep:	0
Other acres:	640	Suspended nonuse:	0	Deer/pronghorn:	35
Category:	M	Total preference:	1,317	Elk:	0
				Other wildlife:	5
				Wild horses:	0
				Total:	40
Identified resource conflicts/concerns:		Management direction:			
Range/livestock management:					
Livestock distribution/management.		■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.			
Improve/maintain range condition.		■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.			
Maintain/improve forage production.		■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.			
Plant communities/vegetation:					
Noxious weed encroachment.		■ Implement the objectives for the Warner Basin Weed Management Area plan.			
Possibility of whitetop encroachment.		■ Control whitetop where it occurs.			
Wildlife/wildlife habitat:					
Special status animal species occurs within the allotment: greater sage-grouse.		■ Implement interim greater sage-grouse guidelines.			
Pronghorn winter range.		■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.			

Number: 00600		Name: BEATY BUTTE COMMON			
General		Grazing information (AUM's)		Other forage demands (AUM's)	
Public acres:	506,985	Active preference:	26,121	Bighorn sheep:	240
Other acres:	68,510	Suspended nonuse:	14,466	Deer/pronghorn:	400
Category:	I	Total preference:	40,587	Elk:	0
				Other wildlife:	44
				Wild horses:	2,400
				Total:	3,084

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Maintain/improve forage production.

■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.

Revise allotment management plan/EIS objectives.

■ List/carry forward allotment management plan/EIS objectives.

**Plant communities/vegetation:**

Special status plant species and habitats present: prostrate buckwheat, Crosby's buckwheat, bastard kentrophyta, and thickstemmed wild cabbage.

■ Protect special status plant species/habitat from BLM-authorized activities.

**Wild horses:**

Wild horses.

■ Increase forage allocation for wild horses to 3,000 AUM's to provide 12 months of forage for all horses at the top appropriate management level of 250 horses.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for bighorn sheep.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

**Special management areas:**

Proposed Hawk Mountain I and II, High Lakes, Hawksie-Walksie, and Guano Creek/Sink Lakes ACEC's exist within the allotment.

■ Adjust allotment management, including levels and areas of authorized use, seasons of use, and grazing system, as required by proposed ACEC management plans.

Number: 00700		Name: SILVER CREEK-BRIDGE CREEK			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	6,645	Active preference:	303	Bighorn sheep:	0
Other acres:	265	Suspended nonuse:	343	Deer/pronghorn:	50
Category:	I	Total preference:	646	Elk:	60
				Other wildlife:	19
				Wild horses:	0
				Total:	129
Identified resource conflicts/concerns:		Management direction:			
Range/livestock management:					
Livestock distribution/management.		■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.			
Improve/maintain range condition.		■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.			
Maintain/improve forage production.		■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.			
Plant communities/vegetation:					
Juniper expansion is impacting watershed functions, wildlife habitat, quaking aspen stands, and ecological conditions.		■ Restore productivity and biodiversity in juniper and quaking aspen stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Maintain quaking aspen to maintain age class diversity and allow for species reestablishment.			
Noxious weed encroachment.		■ Manage noxious weeds.			
Cultural inventory incomplete.		■ Complete cultural plant surveys. Manage to protect plants and communities for potential use by Native Americans.			
Watershed/riparian/fisheries:					
Surface water quality concerns.		■ Improve surface water quality to state standards or better.			
No conservation strategy for redband trout.		■ Develop/implement conservation agreement for redband trout.			
Wildlife/wildlife habitat:					
Mule deer winter range.		■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.			
No forage allocated for elk.		■ Monitor population expansion to ensure that sufficient forage and habitat are available.			
Special status animal species occurs within the allotment: greater sage-grouse.		■ Implement interim greater sage-grouse guidelines.			
Bald eagle management plans are not complete.		■ Continue to work with USFS on bald eagle management plans.			

Number: 00701		Name: UPPER BRIDGE CREEK			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	1,460	Active preference:	108	Bighorn sheep:	0
Other acres:	3,270	Suspended nonuse:	52	Deer/pronghorn:	20
Category:	M	Total preference:	160	Elk:	30
				Other wildlife:	9
				Wild horses:	0
				Total:	59

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

52 AUM's suspended.

■ Reinstate 52 AUM's suspended nonuse.

**Plant communities/vegetation:**

Juniper expansion is impacting watershed functions, wildlife habitat, quaking aspen stands, and ecological conditions.

■ Restore productivity and biodiversity in juniper and quaking aspen stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Maintain quaking aspen to maintain age class diversity and allow for species reestablishment.

Noxious weed encroachment.

■ Manage noxious weeds.

Cultural plant inventory incomplete.

■ Complete cultural plant surveys. Manage to protect plants and communities for potential use by Native Americans.

**Watershed/riparian/fisheries:**

No conservation strategy for redband trout.

■ Develop/implement conservation agreement for redband trout.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for elk.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Bald eagle management plans are not complete.

■ Continue to work with USFS on bald eagle management plans.

Number: 00702		Name: BUCK CREEK-BRIDGE CREEK			
General		Grazing information (AUM's)		Other forage demands (AUM's)	
Public acres:	6,280	Active preference:	309	Bighorn sheep:	0
Other acres:	375	Suspended nonuse:	30	Deer/pronghorn:	120
Category:	M	Total preference:	339	Elk:	30
				Other wildlife:	22
				Wild horses:	0
				Total:	172

**Identified resource conflicts/concerns:**
**Management direction:**
**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Maintain/improve forage production.

■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.

**Plant communities/vegetation:**

Juniper expansion is impacting watershed functions, wildlife habitat, quaking aspen stands, and ecological conditions.

■ Restore productivity and biodiversity in juniper and quaking aspen stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Maintain quaking aspen to maintain age class diversity and to allow for species reestablishment.

Noxious weed encroachment.

Cultural plant inventory incomplete.

■ Complete cultural plant surveys. Manage to protect plants and communities for potential use by Native Americans.

**Watershed/riparian/fisheries:**

No conservation strategy for redband trout.

■ Develop/implement conservation agreement for redband trout.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for elk.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Bald eagle management plans are not complete.

■ Continue to work with USFS on bald eagle management plans.

Number: 00703		Name: BEAR CREEK			
General		Grazing information (AUM's)		Other forage demands (AUM's)	
Public acres:	1,155	Active preference:	118	Bighorn sheep:	0
Other acres:	990	Suspended nonuse:	11	Deer/pronghorn:	30
Category:	M	Total preference:	129	Elk:	30
				Other wildlife:	6
				Wild horses:	0
				Total:	66

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Season of use.

■ Consider season of use changes combined with a grazing system that will address resource concerns.

**Plant communities/vegetation:**

Juniper expansion is impacting watershed functions, wildlife habitat, quaking aspen stands, and ecological conditions.

■ Restore productivity and biodiversity in juniper and quaking aspen stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Maintain quaking aspen to maintain age class diversity and allow for species reestablishment.

Noxious weed encroachment.

■ Manage noxious weeds.

Cultural plant inventory incomplete.

■ Complete cultural plant surveys. Manage to protect plants and communities for potential use by Native Americans.

**Watershed/riparian/fisheries:**

No conservation strategy for redband trout.

■ Develop/implement conservation agreement for redband trout.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for elk.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Bald eagle management plans are not complete.

■ Continue to work with USFS on bald eagle management plans.

Number: 00704		Name: WARD LAKE			
General		Grazing information (AUM's)		Other forage demands (AUM's)	
Public acres:	12,424	Active preference:	650	Bighorn sheep:	0
Other acres:	1,819	Suspended nonuse:	223	Deer/pronghorn:	170
Category:	I	Total preference:	873	Elk:	150
				Other wildlife:	17
				Wild horses:	0
				Total:	337

**Identified resource conflicts/concerns:**
**Management direction:**
**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Carrying capacity is under study.

■ Finalize carrying capacity.

**Plant communities/vegetation:**

Juniper expansion is impacting watershed functions, wildlife habitat, quaking aspen stands, and ecological conditions.

■ Restore productivity and biodiversity in juniper and quaking aspen stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Maintain quaking aspen to maintain age class diversity and allow for species reestablishment.

Noxious weed encroachment.

■ Manage noxious weeds.

Cultural plant inventory incomplete.

■ Complete cultural plant surveys. Manage to protect plants and communities for potential use by Native Americans.

**Watershed/riparian/fisheries:**

No conservation strategy for redband trout.

■ Develop/implement conservation agreement for redband trout.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocation for elk.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Bald eagle management plans are not complete.

■ Continue to work with USFS on bald eagle management plans.

Number: 00705		Name: OATMAN FLAT			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	28,503	Active preference:	2,082	Bighorn sheep:	0
Other acres:	6,075	Suspended nonuse:	623	Deer/pronghorn:	<u>730</u>
Category:	I	Total preference:	2,705	Elk:	150
				Other wildlife:	28
				Wild horses:	0
				Total:	908

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Plant communities/vegetation:**

Juniper expansion is impacting watershed functions, wildlife habitat, quaking aspen stands, and ecological conditions.

■ Restore productivity and biodiversity in juniper and quaking aspen stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Maintain quaking aspen to maintain age class diversity and allow for species reestablishment.

Noxious weed encroachment.

■ Manage noxious weeds.

Cultural plant inventory incomplete.

■ Complete cultural plant surveys. Manage to protect plants and communities for potential use by Native Americans.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants. Monitor population expansion to ensure that sufficient forage and habitat are available.

No forage allocated for elk.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

**Special management areas:**

Proposed Connley Hills ACEC exists within allotment (grazing season of use changes are under study).

■ Adjust allotment management, including levels and areas of authorized use, seasons of use, and grazing system, as required by proposed ACEC management plan.



Number: 00706		Name: RYE RANCH			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	4,240	Active preference:	539	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	120
Category:	M	Total preference:	539	Elk:	40
				Other wildlife:	10
				Wild horses:	0
				Total:	170

**Identified resource conflicts/concerns:**
**Management direction:**
**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Maintain/improve forage production.

■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.

**Plant communities/vegetation:**

Juniper expansion is impacting watershed functions, wildlife habitat, quaking aspen stands, and ecological conditions.

■ Restore productivity and biodiversity in juniper and quaking aspen stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Maintain quaking aspen to maintain age class diversity and allow for species reestablishment.

Noxious weed encroachment.

■ Manage noxious weeds.

Complete cultural plant inventory.

■ Complete cultural plant surveys. Manage to protect plants and communities for potential use by Native Americans.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for elk.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Number: 00707		Name: TUFF BUTTE			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	9,330	Active preference:	536	Bighorn sheep:	0
Other acres:	2,310	Suspended nonuse:	0	Deer/pronghorn:	320
Category:	M	Total preference:	536	Elk:	180
				Other wildlife:	20
				Wild horses:	0
				Total:	520

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

- |                                     |   |
|-------------------------------------|---|
| Livestock distribution/management.  | ■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise. |
| Improve/maintain range condition.   | ■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.  |
| Maintain/improve forage production. | ■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.  |
| Livestock season of use.            | ■ Consider adjustments to season of use in combination with a grazing system that may benefit resources.  |

**Plant communities/vegetation:**

- |  |   |
|--|---|
| Juniper expansion is impacting watershed functions, wildlife habitat, quaking aspen stands, and ecological conditions. | ■ Restore productivity and biodiversity in juniper and quaking aspen stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Maintain quaking aspen to maintain age class diversity and allow for species reestablishment. |
| Noxious weed encroachment.   | ■ Manage noxious weeds.   |
| Incomplete cultural plant inventory.   | ■ Complete cultural plant surveys. Manage to protect plants and communities for potential use by Native Americans.  |

**Wildlife/wildlife habitat:**

- |   |   |
|---|---|
| Mule deer winter range.   | ■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants. |
| No forage allocated for elk.  | ■ Monitor population expansion to ensure that sufficient forage and habitat are available.  |
| Special status animal species occurs within the allotment: greater sage-grouse. | ■ Implement interim greater sage-grouse guidelines.   |

Number: 00708		Name: ARROW GAP			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	2,720	Active preference:	135	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	25	Deer/pronghorn:	140
Category:	C	Total preference:	160	Elk:	6
				Other wildlife:	20
				Wild horses:	0
				Total:	166
Identified resource conflicts/concerns:		Management direction:			
Range/livestock management:					
Livestock distribution/management.		■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.			
Season of use.		■ Adjust season of use in combination with a grazing system that may benefit resources on this allotment.			
Plant communities/vegetation:					
Juniper expansion is impacting watershed functions, wildlife habitat, quaking aspen stands, and ecological conditions.		■ Restore productivity and biodiversity in juniper and quaking aspen stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Maintain quaking aspen to maintain age class diversity and allow for species reestablishment.			
Noxious weed encroachment.		■ Manage noxious weeds.			
Special status plant species and habitat present: snowline cymopterus and Cusick's buckwheat.		■ Protect special status plant species/habitat from BLM-authorized activities.			
Status and distribution of special status species and cultural plants are unknown.		■ Conduct inventory for special status species and cultural plant communities to determine spacial distribution and grazing impacts.			
Incomplete cultural plant inventory.		■ Complete cultural plant surveys. Manage to protect plants and communities for potential use by Native Americans.			
Wildlife/wildlife habitat:					
Mule deer winter range.		■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.			
No forage allocated for elk.		■ Monitor population expansion to ensure that sufficient forage and habitat are available.			
Special status animal species occurs within the allotment: greater sage-grouse.		■ Implement interim greater sage-grouse guidelines.			
Special management areas:					
Proposed Connley Hills ACEC exists within allotment.		■ Adjust allotment management, including levels and areas of authorized use, seasons of use, and grazing system, as required by proposed ACEC management plan.			

Number: 00709		Name: DEAD INDIAN-DUNCAN			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	18,790	Active preference:	586	Bighorn sheep:	0
Other acres:	2,420	Suspended nonuse:	112	Deer/pronghorn:	620
Category:	M	Total preference:	698	Elk:	150
				Other wildlife:	27
				Wild horses:	0
				Total:	797

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Plant communities/vegetation:**

Juniper expansion is impacting watershed functions, wildlife habitat, quaking aspen stands, and ecological conditions.

■ Restore productivity and biodiversity in juniper and quaking aspen stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Maintain quaking aspen to maintain age class diversity and allow for species reestablishment.

Encroachment of noxious weeds.

■ Develop a strategy for medusahead and Mediterranean sage in proximity of Duncan Reservoir.

Cultural plant inventory incomplete.

■ Complete cultural plant surveys. Manage to protect plants and communities for potential use by Native Americans.

**Watershed/riparian/fisheries:**

No conservation strategy for redband trout.

■ Develop/implement conservation agreement for redband trout.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocation for elk.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Bald eagle management plans are not complete.

■ Continue to work with USFS on bald eagle management plans.

Number: 00710		Name: MURDOCK			
General		Grazing information (AUM's)		Other forage demands (AUM's)	
Public acres:	4,468	Active preference:	545	Bighorn sheep:	0
Other acres:	1,668	Suspended nonuse:	160	Deer/pronghorn:	60
Category:	I	Total preference:	705	Elk:	60
				Other wildlife:	12
				Wild horses:	0
				Total:	132

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Current range condition, level, or pattern of utilization may be unacceptable.

■ Adjust livestock levels, season of use, or grazing system, if necessary.

**Plant communities/vegetation:**

Juniper expansion is impacting watershed functions, wildlife habitat, quaking aspen stands, and ecological conditions.

■ Restore productivity and biodiversity in juniper and quaking aspen stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Maintain quaking aspen to maintain age class diversity and allow for species reestablishment.

Noxious weed encroachment.

■ Manage noxious weeds.

Cultural plant inventory incomplete.

■ Complete cultural plant surveys. Manage to protect plants and communities for potential use by Native Americans.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for elk.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Number: 00711		Name: SOUTH HAYES BUTTE			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	1,490	Active preference:	88	Bighorn sheep:	0
Other acres:	710	Suspended nonuse:	50	Deer/pronghorn:	10
Category:	I	Total preference:	138	Elk:	60
				Other wildlife:	7
				Wild horses:	0
				Total:	77

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Plant communities/vegetation:**

Juniper expansion is impacting watershed functions, quaking aspen stands, and ecological conditions.

■ Restore productivity and biodiversity in juniper and quaking aspen stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Maintain quaking aspen to maintain age class diversity and allow for species reestablishment.

Noxious weed encroachment.

■ Manage noxious weeds.

Cultural plant inventory is incomplete.

■ Complete cultural plant surveys. Manage to protect plants and communities for potential use by Native Americans.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for elk.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Number: 00712		Name: BRIDGE WELL SEEDING			
General		Grazing information (AUM's)		Other forage demands (AUM's)	
Public acres:	1,400	Active preference:	188	Bighorn sheep:	0
Other acres:	1,050	Suspended nonuse:	0	Deer/pronghorn:	90
Category:	M	Total preference:	188	Elk:	60
				Other wildlife:	9
				Wild horses:	0
				Total:	159

**Identified resource conflicts/concerns:**
**Management direction:**
**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Maintain/improve forage production.

■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.

Continue livestock management practices under the 1992 allotment management plan. Revise objectives as needed to meet multiple use objectives.

■ The allotment management plan objectives are:

1. On range study site SC-1 and BW-1, maintain 55-60% composition by weight of key perennial grasses (crested wheatgrass) through 1997.
2. Decrease soil loss and increase water capture, storage, and safe release on the four-wheel drive trails monitored using the photo trend method.
3. Allow adequate spring forage green-up for wintering deer herds.
4. Maintain/improve quality of deer winter range habitat and restrict livestock bitterbrush use to < 10%.

**Plant communities/vegetation:**

Juniper expansion is impacting watershed functions, wildlife habitat, quaking aspen stands, and ecological conditions.

■ Restore productivity and biodiversity in juniper and quaking aspen stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Maintain quaking aspen to maintain age class diversity and allow for species reestablishment.

Noxious weed encroachment.

■ Manage noxious weeds.

Cultural plant inventory is incomplete.

■ Complete cultural plant surveys. Manage to protect plants and communities for potential use by Native Americans.

**Wildlife/wildlife management:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for elk.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Number: 00713		Name: SILVER CREEK			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	2,785	Active preference:	200	Bighorn sheep:	0
Other acres:	870	Suspended nonuse:	0	Deer/pronghorn:	50
Category:	M	Total preference:	200	Elk:	60
				Other wildlife:	12
				Wild horses:	0
				Total:	122

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Maintain/improve forage production.

■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.

Continue livestock management practices under the 1992 allotment management plan. Revise objectives as needed to meet multiple use objectives.

■ The allotment management plan objectives are:

1. On range study site SC-1 and BW-1, maintain 55-60% composition by weight of key perennial grasses (crested wheatgrass) through 1997.
2. Decrease soil loss and increase water capture, storage, and safe release on the four-wheel drive trails monitored using the photo trend method.
3. Allow adequate spring forage green-up for wintering deer herds.
4. Maintain/improve quality of deer winter range habitat and restrict livestock bitterbrush use to < 10%.

**Plant communities/vegetation:**

Juniper expansion is impacting watershed functions, wildlife habitat, quaking aspen stands, and ecological conditions.

■ Restore productivity and biodiversity in juniper and quaking aspen stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Maintain quaking aspen to maintain age class diversity and allow for species reestablishment.

Noxious weed encroachment.

■ Manage noxious weeds.

Cultural plant inventory is incomplete.

■ Complete cultural plant surveys. Manage to protect plants and communities for potential use by Native Americans.

**Watershed/riparian/fisheries:**

Surface water quality concerns.

■ Improve surface water quality to state standards or better where BLM-authorized grazing is having a negative effect.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for elk.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.



Number: 00714		Name: TABLE ROCK			
General		Grazing information (AUM's)		Other forage demands (AUM's)	
Public acres:	4,110	Active preference:	0	Bighorn sheep:	0
Other acres:	120	Suspended nonuse:	250	Deer/pronghorn:	160
Category:	C	Total preference:	250	Elk:	6
				Other wildlife:	13
				Wild horses:	0
				Total:	179

**Identified resource conflicts/concerns:****Management direction:****Range/livestock management:**

Grazing conflicts with cultural practices.

- Permanently retire/remove grazing from this allotment and reallocate a similar level of forage within the seeding in 0420 or move to 716.

**Plant communities/vegetation:**

Special status plant species and habitat present: Cusick's buckwheat and snowline cymopterus.

- Protect special status plant species/habitat from BLM-authorized activities.

**Wildlife/wildlife habitat:**

Mule deer winter range.

- Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for elk.

- Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

- Implement interim greater sage-grouse guidelines.

Number: 00716		Name: SILVER LAKE BED			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	680	Active preference:	0	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	25
Category:	C	Total preference:	0	Elk:	0
				Other wildlife:	5
				Wild horses:	0
				Total:	30

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

■ Transfer AUM's from Table Rock Allotment (714) to this allotment in permanent instead of temporary allocation.

**Plant communities/vegetation:**

Juniper expansion is impacting watershed functions, wildlife habitat, quaking aspen stands, and ecological conditions.

■ Restore productivity and biodiversity in juniper and quaking aspen stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Maintain quaking aspen to maintain age class diversity and allow for species reestablishment.

Noxious weed encroachment.

■ Manage noxious weeds.

Cultural plant inventory is incomplete.

■ Complete cultural plant surveys. Manage to protect plants and communities for potential use by Native Americans.

Special status plant species and habitat present: Columbia cress.

■ Protect special status plant species/habitat from BLM-authorized activities.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Number: 00900		Name: FREMONT			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	26,362	Active preference:	1,970	Bighorn sheep:	0
Other acres:	511	Suspended nonuse:	0	Deer/pronghorn:	1,200
Category:	M	Total preference:	1,970	Elk:	60
				Other wildlife:	29
				Wild horses:	0
				Total:	1,289
Identified resource conflicts/concerns:		Management direction:			
Range/livestock management:					
Livestock distribution/management.		■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.			
Improve/maintain range condition.		■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.			
Plant communities/vegetation:					
Noxious weed encroachment.		■ Manage noxious weeds.			
Wildlife/wildlife habitat:					
Mule deer winter range.		■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.			
No forage allocated for elk.		■ Monitor population expansion to ensure that sufficient forage and habitat are available.			
Special status animal species occurs within the allotment: greater sage-grouse.		■ Implement interim greater sage-grouse guidelines.			
Special management areas:					
Protect ACEC and WSA values.		■ Fence boundaries of 0905, 0906, 0908, and parts of 0900 (if needed) to exclude livestock and protect/enhance WSA and ACEC values (Devils Garden). Some grazing does occur inside WSA in 0910.			
Fire:					
Fire hazard reduction.					
Coordinate fuel treatments with grazing management.		■ Implement fuel-loading treatments to protect Deschutes National Forest from catastrophic fire.			

Number: 00901		Name: WASTINA			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	6,366	Active preference:	419	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	300
Category:	M	Total preference:	419	Elk:	40
				Other wildlife:	11
				Wild horses:	0
				Total:	351

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Livestock distribution/management. Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Plant communities/vegetation:**

Noxious weed encroachment.

■ Manage noxious weeds.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for elk.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

**Fire:**

Fire hazard reduction.

Coordinate fuel treatments with grazing management.

■ Implement fuel-loading treatments to protect Deschutes National Forest from catastrophic fire.

Number: 00902		Name: CINDER BUTTE			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	10,776	Active preference:	891	Bighorn sheep:	0
Other acres:	320	Suspended nonuse:	0	Deer/pronghorn:	600
Category:	M	Total preference:	891	Elk:	40
				Other wildlife:	34
				Wild horses:	0
				Total:	674

Identified resource conflicts/concerns:		Management direction:	
<i>Range/livestock management:</i>			
<u>Livestock distribution/management.</u>		■ <u>Livestock distribution/management. Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.</u>	
<u>Improve/maintain range condition.</u>		■ <u>Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.</u>	
<i>Plant communities/vegetation:</i>			
<u>Noxious weed encroachment.</u>		■ <u>Manage noxious weeds.</u>	
<i>Wildlife/wildlife habitat:</i>			
<u>Mule deer winter range.</u>		■ <u>Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.</u>	
<u>No forage allocated for elk.</u>		■ <u>Monitor population expansion to ensure that sufficient forage and habitat are available.</u>	
<u>Special status animal species occurs within the allotment: greater sage-grouse.</u>		■ <u>Implement interim greater sage-grouse guidelines.</u>	
<i>Fire:</i>			
<u>Fire hazard reduction.</u>			
<u>Coordinate fuel treatments with grazing management.</u>		■ <u>Implement fuel-loading treatments to protect Deschutes National Forest from catastrophic fire.</u>	

Number: 00903		Name: BEASLEY LAKE			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	2,460	Active preference:	232	Bighorn sheep:	0
Other acres:	534	Suspended nonuse:	0	Deer/pronghorn:	60
Category:	M	Total preference:	232	Elk:	40
				Other wildlife:	6
				Wild horses:	6
				Total:	112

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

- |                                     |   |
|-------------------------------------|---|
| Livestock distribution/management.  | ■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise. |
| Improve/maintain range condition.   | ■ Improve/maintain range condition and productivity using management practices and/or better animal distribution, developing range improvement projects when appropriate. Adjust permitted use as needed.               |
| Maintain/improve forage production. | ■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.  |

**Plant communities/vegetation:**

- |                            |                         |
|----------------------------|-------------------------|
| Noxious weed encroachment. | ■ Manage noxious weeds. |
|----------------------------|-------------------------|

**Wildlife/wildlife habitat:**

- |   |   |
|---|---|
| Mule deer winter range.   | ■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants. |
| No forage allocated for elk.  | ■ Monitor population expansion to ensure that sufficient forage and habitat are available.  |
| Special status animal species occurs within the allotment: greater sage-grouse. | ■ Implement interim greater sage-grouse guidelines.   |

**Fire:**

- |   |  |
|---|--|
| Fire hazard reduction.                              |  |
| Coordinate fuel treatments with grazing management. | ■ Implement fuel-loading treatments to protect Deschutes National Forest from catastrophic fire. |

Number: 00904		Name: HIGHWAY			
General		Grazing information (AUM's)		Other forage demands (AUM's)	
Public acres:	2,420	Active preference:	118	Bighorn sheep:	0
Other acres:	989	Suspended nonuse:	0	Deer/pronghorn:	80
Category:	M	Total preference:	118	Elk:	40
				Other wildlife:	11
				Wild horses:	0
				Total:	131

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Plant communities/vegetation:**

Noxious weed encroachment.

■ Manage noxious weeds.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for elk.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

**Fire:**

Fire hazard reduction.

Coordinate fuel treatments with grazing management.

■ Implement fuel-loading treatments to protect Deschutes National Forest from catastrophic fire.

Number: 00905		Name: HOMESTEAD			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	12,877	Active preference:	685	Bighorn sheep:	<u>20</u>
Other acres:	9,728	Suspended nonuse:	0	Deer/pronghorn:	<u>500</u>
Category:	M	Total preference:	685	Elk:	40
				Other wildlife:	8
				Wild horses:	0
				Total:	<u>568</u>

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

- Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

- Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Plant communities/vegetation:**

Noxious weed encroachment.

- Manage noxious weeds.

**Wildlife/wildlife habitat:**

Mule deer winter range.

- Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for elk.

- Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

- Implement interim greater sage-grouse guidelines.

**Special management areas:**

Devils Garden WSA occurs within the allotment.

- Manage grazing to protect WSA values.

Protect ACEC and WSA values.

- Fence boundaries of 0900, 0905, 0906, and 0908 (if needed) to exclude livestock and protect/enhance WSA and ACEC values (Devils Garden). Some grazing does occur inside WSA in 0910.

**Fire:**

Fire hazard reduction.

Coordinate fuel treatments with grazing management.

- Implement fuel-loading treatments to protect Deschutes National Forest from catastrophic fire.



Number: 00906		Name: NORTH WEBSTER			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	1,071	Active preference:	112	Bighorn sheep:	10
Other acres:	3,416	Suspended nonuse:	0	Deer/pronghorn:	40
Category:	M	Total preference:	112	Elk:	40
				Other wildlife:	11
				Wild horses:	0
				Total:	101
Identified resource conflicts/concerns:		Management direction:			
Range/livestock management:					
<u>Livestock distribution/management.</u>		■ <u>Livestock distribution/management. Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.</u>			
<u>Improve/maintain range condition.</u>		■ <u>Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.</u>			
Plant communities/vegetation:					
Noxious weed encroachment.		■ <u>Manage noxious weeds.</u>			
Status and location of sensitive monkey flower species and cultural plant communities is unknown.		■ <u>Survey for sensitive monkey flower species and determine appropriate management needs.</u>			
Wildlife/wildlife habitat:					
<u>Mule deer winter range.</u>		■ <u>Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.</u>			
No forage allocated for elk.		■ <u>Monitor population expansion to ensure that sufficient forage and habitat are available.</u>			
<u>Special status animal species occurs within the allotment: greater sage-grouse.</u>		■ <u>Implement interim greater sage-grouse guidelines.</u>			
Special management areas:					
Squaw Ridge WSA occurs within the allotment.		■ <u>Manage grazing to protect WSA values.</u>			
Protect ACEC and WSA values.		■ <u>Fencing boundaries of 0900, 0905, 0906, and 0908 (if needed) to exclude livestock and protect/enhance WSA and ACEC values (Devils Garden). Some grazing does occur inside WSA in 0910.</u>			
Fire:					
Fire hazard reduction.					
Coordinate fuel treatments with grazing management.		■ <u>Implement fuel-loading treatments to protect Deschutes National Forest from catastrophic fire.</u>			

Number: 00907		Name: DEVILS GARDEN			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	4,406	Active preference:	0	Bighorn sheep:	80
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	100
Category:	M	Total preference:	0	Elk:	600
				Other wildlife:	16
				Wild horses:	0
				Total:	796

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Grazing on emergency basis.

■ Grazing use within Devils Garden is on emergency basis only in the 907 allotment. Future grazing in the 907 allotment will be based on development of an ACEC management plan.

**Plant communities/vegetation:**

Noxious weed encroachment.

■ Manage noxious weeds.

Status and location of sensitive monkey flower species and cultural plant communities is unknown.

■ Survey for sensitive monkey flower species and determine appropriate management needs.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for elk or bighorn sheep.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

**Special management areas:**

Devils Garden WSA occurs within the allotment.

■ Manage grazing to protect WSA values.

Protect ACEC and WSA values.

■ Fence boundaries of 0907 if needed to protect/enhance WSA and ACEC values (Devils Garden) (grazing occurs inside WSA in 0910 and 906). Adjacent allotments that may need fencing are 900, 905, and 908.

**Fire:**

Fire hazard reduction.

Coordinate fuel treatments with grazing management.

■ Implement fuel-loading treatments to protect Deschutes National Forest from catastrophic fire.

Number: 00908		Name: COUGAR MOUNTAIN			
General		Grazing information (AUM's)		Other forage demands (AUM's)	
Public acres:	8,282	Active preference:	616	Bighorn sheep:	40
Other acres:	3,405	Suspended nonuse:	0	Deer/pronghorn:	520
Category:	M	Total preference:	616	Elk:	40
				Other wildlife:	14
				Wild horses:	0
				Total:	614

**Identified resource conflicts/concerns:**
**Management direction:**
**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Plant communities/vegetation:**

Noxious weed encroachment.

■ Manage noxious weeds.

Status and location of sensitive monkey flower species and cultural plant communities is unknown.

■ Survey for sensitive monkey flower species and determine appropriate management needs.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for elk or bighorn sheep.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

**Special management areas:**

Protect ACEC and WSA values.

■ Fence boundaries of 0900, 0905, 0906, and parts of 0908 to exclude livestock and protect/enhance WSA and ACEC values (Devils Garden). Some grazing does occur inside WSA in 0910.

**Fire:**

Fire hazard reduction.

Coordinate fuel treatments with grazing management.

■ Implement fuel-loading treatments to protect Deschutes National Forest from catastrophic fire.

Number: 00909		Name: BUTTON SPRINGS			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	8,779	Active preference:	1,068	Bighorn sheep:	10
Other acres:	1,240	Suspended nonuse:	0	Deer/pronghorn:	240
Category:	M	Total preference:	1,068	Elk:	40
				Other wildlife:	12
				Wild horses:	0
				Total:	302
Identified resource conflicts/concerns:		Management direction:			
Range/livestock management:					
Livestock distribution/management.		■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.			
Improve/maintain range condition.		■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.			
Plant communities/vegetation:					
Noxious weed encroachment.		■ Manage noxious weeds.			
Watershed/riparian/fisheries:					
Improve upland functions.		■ Treat areas of juniper and/or ponderosa pine expansion to improve upland watershed function and ecological site condition.			
Wildlife/wildlife habitat:					
Mule deer winter range.		■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.			
No forage allocated for elk.		■ Monitor population expansion to ensure that sufficient forage and habitat are available.			
Special status animal species occurs within the allotment: greater sage-grouse.		■ Implement interim greater sage-grouse guidelines.			
Fire:					
Fire hazard rerduction.					
Coordinate fuel treatments with grazing management.		■ Implement fuel-loading treatments to protect Deschutes National Forest from catastrophic fire.			

Number: 00910		Name: HOGBACK BUTTE			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	4,384	Active preference:	680	Bighorn sheep:	60
Other acres:	4,234	Suspended nonuse:	0	Deer/pronghorn:	170
Category:	M	Total preference:	680	Elk:	40
				Other wildlife:	12
				Wild horses:	0
				Total:	282
Identified resource conflicts/concerns:		Management direction:			
Range/livestock management:					
<u>Livestock distribution/management.</u>		■ <u>Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.</u>			
<u>Improve/maintain range condition.</u>		■ <u>Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.</u>			
Plant communities/vegetation:					
Noxious weed encroachment.		■ <u>Manage noxious weeds.</u>			
Status and location of sensitive monkey flower species and cultural plant communities is unknown.		■ <u>Survey for sensitive monkey flower species and determine appropriate management needs.</u>			
Wildlife/wildlife habitat:					
<u>Mule deer winter range.</u>		■ <u>Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.</u>			
No forage allocated for elk.		■ <u>Monitor population expansion to ensure that sufficient forage and habitat are available.</u>			
<u>Special status animal species occurs within the allotment: greater sage-grouse.</u>		■ <u>Implement interim greater sage-grouse guidelines.</u>			
Special management areas:					
Squaw Ridge WSA occurs within the allotment.		■ <u>Manage grazing to protect WSA values.</u>			
Protect ACEC and WSA values.		■ <u>Fence boundary of 0900, 0905, 0906, and 0908 (if necessary) to exclude livestock and protect/enhance WSA and ACEC values (Devils Garden). Some grazing does occur inside WSA in 0910.</u>			
Fire:					
Fire hazard reduction.					
Coordinate fuel treatments with grazing management.		■ <u>Implement fuel-loading treatments to protect Deschutes National Forest from catastrophic fire.</u>			

Number: 00911		Name: VALLEY			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	6,120	Active preference:	613	Bighorn sheep:	0
Other acres:	769	Suspended nonuse:	0	Deer/pronghorn:	120
Category:	M	Total preference:	613	Elk:	30
				Other wildlife:	17
				Wild horses:	0
				Total:	167

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Plant communities/vegetation:**

Juniper expansion is impacting watershed functions, wildlife habitat, quaking aspen stands, and ecological conditions.

■ Restore productivity and biodiversity in juniper and quaking aspen stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Maintain quaking aspen to maintain age class diversity and allow for species reestablishment.

Noxious weed encroachment.

■ Manage noxious weeds.

Cultural plant inventory incomplete.

■ Complete cultural plant surveys. Manage to protect plants and communities for potential use by Native Americans.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for elk.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Number: 00914		Name: WEST GREEN MOUNTAIN			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	21,656	Active preference:	1,395	Bighorn sheep:	60
Other acres:	4,246	Suspended nonuse:	0	Deer/pronghorn:	200
Category:	M	Total preference:	1,395	Elk:	40
				Other wildlife:	13
				Wild horses:	0
				Total:	313

**Identified resource conflicts/concerns:**
**Management direction:**
**Range/livestock management:**

Livestock distribution/management.

- Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

- Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Continue livestock management practices under the 1984 allotment management plan. Revise objectives as needed to meet multiple use objectives.

- The allotment management plan objectives are:

1. Maintain cover of key species at existing levels as follows:

Gerkin Pasture: 7% (from photo trend plot WG-5)  
Steigleder Pasture: 4% (from photo trend plot WG-4)  
Gerkin Pasture: 4% (from photo trend plot WG-3)  
Ward Well Pasture: 2% (from photo trend plot WG-2)  
Boundary Well: 4% (from photo trend plot WG-1)

2. Maintain or increase the grazing capacity of the entire allotment at its present level of production, 1,223 AUM's active preference.

3. Maintain overall ground cover at levels indicated by photo trend plots WG-4, WG-3, WG-2, and WG-1.

4. Maintain the vigor of desirable species over the entire area through grazing management, particularly on land treatment areas.

5. Improve winter deer habitat on the Gerkin Well area through grazing management, particularly on land treatment areas.

**Plant communities/vegetation:**

Noxious weed encroachment.

- Manage noxious weeds.

Special status plant species occur within the allotment: Cusick's buckwheat and snowline cymopterus.

- Protect special status species/habitat from BLM-authorized activities.

**Wildlife/wildlife habitat:**

Mule deer winter range.

- Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocation for elk.

- Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species habitat occurs within the allotment: greater sage-grouse.

- Implement interim greater sage-grouse guidelines.

**Special management areas:**

Squaw Ridge WSA occurs within the allotment.

- Manage grazing to protect WSA values.

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**Number: 00914 [CONTINUED]**

**Name: WEST GREEN MOUNTAIN**

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***Fire:***

Fire hazard reduction.

- Implement fuel-loading treatments to protect Deschutes National Forest from catastrophic fire. Coordinate fuel treatments with grazing management.



Number: 00915		Name: SQUAW BUTTE			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	8,230	Active preference:	1,000	Bighorn sheep:	<u>30</u>
Other acres:	460	Suspended nonuse:	0	Deer/pronghorn:	<u>500</u>
Category:	M	Total preference:	1,000	Elk:	40
				Other wildlife:	<u>35</u>
				Wild horses:	0
				Total:	<u>605</u>

**Identified resource conflicts/concerns:**
**Management direction:**
**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Continue livestock management practices under the 1984 allotment management plan. Revise objectives as needed to meet multiple use objectives.

■ The allotment management plan objectives are:

1. To minimize forage competition between wintering deer herds and livestock, no turnout prior to May 1 will be allowed, and 535 AUM's of forage are allocated to wildlife.

2. To maintain present satisfactory watershed conditions. This will be monitored through utilization levels.

3. To preserve the wilderness characteristics of the Squaw Ridge WSA. Grazing will be done in accordance with wilderness IMP regulations.

4. To maintain the forage allocated to livestock at 1,000 AUM's on a sustained yield basis.

5. In accordance with the Rangeland Improvement Policy, the allotment is in the maintain category. Therefore, the objective is to maintain a static trend as measured by the quadrat frequency studies at site SB-1 and SB-2.

6. To manage for an average maximum forage utilization level of 50% on key forage species in the spring use pasture.

**Plant communities/vegetation:**

Noxious weed encroachment.

■ Manage noxious weeds.

**Watershed/riparian/fisheries:**

Improve upland functions.

■ Treat areas of juniper and/or ponderosa pine expansion to improve upland watershed function and ecological site condition.

**Wildlife/wildlife habitat:**

Mule deer winter range.

■ Intensively monitor utilization of browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

No forage allocated for elk.

■ Monitor population expansion to ensure that sufficient forage and habitat are available.

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

**Special management areas:**

Squaw Ridge WSA occurs within the allotment.

■ Manage grazing to protect WSA values.

**Fire:**

Fire hazard reduction.

■ Implement fuel-loading treatments to protect Deschutes National Forest from catastrophic fire. Coordinate fuel treatments with grazing management.

Number: 01000		Name: LITTLE JUNIPER SPRING			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	116,836	Active preference:	5,418	Bighorn sheep:	<u>30</u>
Other acres:	780	Suspended nonuse:	0	Deer/pronghorn:	<u>440</u>
Category:	I	Total preference:	5,418	Elk:	0
				Other wildlife:	<u>40</u>
				Wild horses:	0
				Total:	<u>510</u>

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

- |                                     |   |
|-------------------------------------|---|
| Livestock distribution/management.  | ■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise. |
| Improve/maintain range condition.   | ■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.  |
| Maintain/improve forage production. | ■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.  |
| Maintain/improve area's condition.  | ■ Maintain present management by authorizing winter livestock grazing.  |

**Plant communities/vegetation:**

- |  |  |
|--|--|
| Noxious weed encroachment.   | ■ Manage for noxious weeds.  |
| Special status plant species and habitat present: snowline cymopterus and Shelly's ivesia. | ■ Protect special status plant species/habitat from BLM-authorized activities. |

**Wildlife/wildlife habitat:**

- |   |   |
|---|---|
| Special status animal species occurs within the allotment: greater sage-grouse. | ■ Implement interim greater sage-grouse guidelines. |
|---|---|

Number: 01001		Name: ALKALI WINTER			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	87,570	Active preference:	6,223	Bighorn sheep:	<u>50</u>
Other acres:	6,817	Suspended nonuse:	0	Deer/pronghorn:	<u>55</u>
Category:	M	Total preference:	6,223	Elk:	0
				Other wildlife:	<u>5</u>
				Wild horses:	0
				Total:	<u>110</u>

**Identified resource conflicts/concerns:****Management direction:*****Range/livestock management:***Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Maintain/improve forage production.

■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.

Maintain/improve area's condition.

■ Maintain present management by authorizing winter livestock grazing.

Ground contamination.

■ Continue to work with Oregon Department of Environmental Quality (ODEQ) to monitor Alkali Lake site. Monitor groundwater contamination to prevent hazard to livestock, wildlife, and humans.

***Plant communities/vegetation:***Noxious weed encroachment.

■ Manage noxious weeds.

***Wildlife/wildlife habitat:***

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Number: 01002		Name: FRF BAR 75 RANCH			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	2,588	Active preference:	73	Bighorn sheep:	10
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	2
Category:	C	Total preference:	73	Elk:	0
				Other wildlife:	2
				Wild horses:	0
				Total:	14

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

- Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

**Plant communities/vegetation:**

Noxious weed encroachment.

- Manage for noxious weeds.

Number: 01073		Name: SOUTH BUTTE VALLEY			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	3,710	Active preference:	900	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	2
Category:	M	Total preference:	900	Elk:	0
				Other wildlife:	2
				Wild horses:	0
				Total:	4

**Identified resource conflicts/concerns:****Management direction:****Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition.

■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

**Plant communities/vegetation:**

Maintain/improve forage production.

■ Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.

**Wildlife/wildlife habitat:**

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Number: 01300		Name: BECRAFT			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	120	Active preference:	10	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	3
Category:	C	Total preference:	10	Elk:	0
				Other wildlife:	2
				Wild horses:	0
				Total:	5

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Maintain/improve range condition.

■ Continue present management.

Management.

■ Consider disposal of this allotment by direct sale or exchange, where feasible. Some lands contain riparian or other values that would need to be matched during exchange proposals.

**Wildlife/wildlife habitat:**

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Number: 01301		Name: CROOKED CREEK	
General		Grazing information (AUM's)	Other forage demands (AUM's)
Public acres:	240	Active preference:	0
Other acres:	0	Suspended nonuse:	3
Category:	C	Total preference:	0
			Other wildlife:
			2
			Wild horses:
			0
			Total:
			5

**Identified resource conflicts/concerns:****Management direction:****Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Maintain/improve range condition.

■ Continue present management.

Management.

■ Consider disposal of these allotments by direct sale or exchange, where feasible. Some lands contain riparian or other values that would need to be matched during exchange proposals.

**Wildlife/wildlife habitat:**

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Number: 01302		Name: THOMAS CREEK			
General		Grazing information (AUM's)	Other forage demands (AUM's)		
Public acres:	40	Active preference:	30	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	10
Category:	C	Total preference:	30	Elk:	0
				Other wildlife:	4
				Wild horses:	0
				Total:	14

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Maintain/improve range condition.

■ Continue present management.

Management.

■ Consider disposal of these allotments by direct sale or exchange, where feasible. Some lands contain riparian or other values that would need to be matched during exchange proposals.

**Wildlife/wildlife habitat:**

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.



Number: 01303		Name: O'KEEFFE			
General		Grazing information (AUM's)		Other forage demands (AUM's)	
Public acres:	280	Active preference:	20	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	5
Category:	C	Total preference:	20	Elk:	0
				Other wildlife:	5
				Wild horses:	0
				Total:	10

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Maintain/improve range condition.

■ Continue present management.

Management.

■ Consider disposal of these allotments by direct sale or exchange, where feasible. Some lands contain riparian or other values that would need to be matched during exchange proposals.

**Wildlife/wildlife habitat:**

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Number: 01305		Name: SCHULTZ			
General		Grazing information (AUM's)		Other forage demands (AUM's)	
Public acres:	200	Active preference:	29	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	10
Category:	C	Total preference:	29	Elk:	0
				Other wildlife:	4
				Wild horses:	0
				Total:	14

**Identified resource conflicts/concerns:**

**Management direction:**

*Range/livestock management:*

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Maintain/improve range condition.

■ Continue present management.

Management.

■ Consider disposal of these allotments by direct sale or exchange, where feasible. Some lands contain riparian or other values that would need to be matched during exchange proposals.

***Watershed/riparian/fisheries:***

Riparian values.

■ Maintain/improve riparian condition.

No strategy for redband trout habitat protection.

■ Manage/protect redband trout habitat.

***Wildlife/wildlife habitat:***

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

Number: 01306		Name: DICK’S CREEK			
General		Grazing information (AUM’s)	Other forage demands (AUM’s)		
Public acres:	363	Active preference:	55	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	20
Category:	M	Total preference:	55	Elk:	0
				Other wildlife:	7
				Wild horses:	0
				Total:	27
Identified resource conflicts/concerns:		Management direction:			
Range/livestock management:					
<u>Livestock distribution/management.</u>		■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.			
<u>Improve/maintain range condition.</u>		■ Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.			
<u>Maintain/improve area’s condition.</u>		■ Modify the current grazing system to include summer/fall use.			
<u>Management.</u>		■ Consider disposal of these allotments by direct sale or exchange, where feasible. Some lands contain riparian or other values that would need to be matched during exchange proposals.			
Watershed/riparian/fisheries:					
<u>Continue present management.</u>		■ Maintain riparian values.			
<u>No strategy for redband trout habitat protection.</u>		■ Manage/protect redband trout habitat.			
Wildlife/wildlife management:					
<u>Special status animal species occurs within the allotment: greater sage-grouse.</u>		■ Implement interim greater sage-grouse guidelines.			

Number: 01308		Name: BARRY			
General		Grazing information (AUM's)		Other forage demands (AUM's)	
Public acres:	129	Active preference:	0	Bighorn sheep:	0
Other acres:	0	Suspended nonuse:	0	Deer/pronghorn:	1
Category:	C	Total preference:	0	Elk:	0
				Other wildlife:	1
				Wild horses:	0
				Total:	2

**Identified resource conflicts/concerns:**

**Management direction:**

**Range/livestock management:**

Livestock distribution/management.

■ Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Maintain/improve area's condition.

■ Continue present management.

Management.

■ Consider disposal of these allotments by direct sale or exchange, where feasible. Some lands contain riparian or other values that would need to be matched during exchange proposals.

**Wildlife/wildlife habitat:**

Special status animal species occurs within the allotment: greater sage-grouse.

■ Implement interim greater sage-grouse guidelines.

## E3: Range Projects

Table E3-1 lists potential projects by allotment.

## E5: Grazing Systems within the Planning Area

The following descriptions outline the typical periods of grazing use in the planning area; however, there is some variations among allotments based on plant phenology, elevation, and climate. Table E5-1 shows grazing seasons in relation to calendar months.

### Winter Grazing System

Under this system, grazing occurs approximately November 1–February 28. Grazing during this treatment will occur when most plant species are dormant. Most plants will have completed their life cycles and stored maximum carbohydrates for the next growing season.

The winter grazing systems would allow heavy (65 percent) utilization of the previous season's growth, but would be adjusted if other resource objectives (such as residual cover for nesting habitat) are not being met. Livestock would be removed prior to plant initiating growth in the early spring. Grazing during this season aids reproduction and seedling establishment as livestock help scatter and plant seeds.

### Spring Grazing System

Under this system, grazing occurs approximately March 1–May 15. Spring grazing provides plants an opportunity to recover after utilization of early plant growth. By removing livestock before most spring and summer precipitation occurs, the plants will be able to store carbohydrates, set seed, and maintain their vigor. This spring treatment can be used every year with little effect on the plant.

Early use must take place before grass plants are in the boot stage. There must also be enough soil moisture in the ground to provide for regrowth after grazing. Therefore, flexibility in the early treatment will allow for use prior to April 1 but generally not after April 30, except at higher elevations with higher precipitation. At some of the higher elevation areas, spring use may occur into June.

Spring grazing would result in moderate utilization (50

percent) of a combination of the previous season's growth and the current season's early growth of herbaceous key species. Livestock are removed while plants are still growing; therefore, only 20–30 percent of the current season's growth is removed. The spring grazing period is the shortest of any grazing system, and plant regrowth continues about 30–45 days after livestock removal.

Grazing during this period requires plants to draw heavily upon food reserves to replace grazed portions. However, grazing would cease while adequate soil moisture is still available for the grazed plants to reach full growth, produce seed, and fully replenish food reserves. Consequently, this form of grazing is expected to promote the vigor of both herbaceous and woody key species (Stoddart et al. 1975; Cook 1971). This system would enhance the production of perennial grasses since the production of a large number of viable seed is dependent upon vigorous mature plants (Hanson 1940). Seedling establishment would depend on the intensity of grazing in the spring following germination. If seedling plants are not physically damaged through trampling or being pulled up, they would normally be firmly established by the start of the third growing season (Stoddart et al. 1975).

### Spring/Summer Grazing System

Under this system, grazing occurs approximately May 1–August 31. This treatment allows for grazing during the critical growth period of most plants. Carbohydrate reserves are continually being utilized because the green parts of the plant are constantly being removed by livestock. The pastures that are under the summer treatment will generally experience some other treatment the following year.

Spring/summer grazing would allow 50 percent utilization of the annual production of key species during the late spring and summer each year. Grazing would begin each year at a time when carbohydrate reserves are low and continue until after seedripeness.

Although the proposed stocking rates achieve 50 percent utilization on most areas, factors such as terrain, location of fences and water, and type of livestock and vegetation would often result in heavy grazing (60–80 percent of the annual vegetation production) in one portion of an allotment and light use (20–40 percent) in another area. A rapid decrease in key species composition is expected on those areas within an allotment which receives heavy utilization—primarily areas adjacent to water developments and valley bottoms. Spring/summer grazing at the Northern

**Table E3-1.—Potential projects by allotment**

Allotment number	Allotment name	Type of improvement	Units
00100	Peter Creek		
00101	East Green Mountain		
00102	Crack-in-the-Ground	■Fences	3 miles
00103	ZX-Christmas Lake	■Restoration	20,000 acres
00200	Blue Creek Seeding		
00201	Vinyard Individual	■Juniper removal/control	1,500 acres
00202	Hickey Individual	■Parsnip Creek headcut stabilization ■Juniper removal/control	2 structures
00203	O'Keeffe FRF	■Juniper removal/control	
00204	Crump Individual	■Juniper removal/control	2,500 acres
00205	Greaser Drift		
00206	Lane Plan II	■Drake Creek/Roaring Spring exclosures ■Drake Creek headcut stabilization ■Juniper removal/control	1 mile 4 structures
00207	Lane Plan I	■Juniper removal/control	1,000 acres
00208	Sagehen		
00209	Schadler	■Juniper removal/control	600 acres
00210	Rim	■Juniper removal/control	
00211	Round Mountain	■Lower Twelvemile stabilization ■Juniper removal/control	1 structure
00212	Rahilly-Gravelly	■Juniper removal/control	
00213	Burro Springs	■Juniper removal/control	1,000 acres
00214	Chukar Springs	■Juniper removal/control	1,000 acres
00215	Hill Camp	■Juniper removal/control	
00216	O'Keeffe Individual	■Juniper removal/control	
00217	Cox Individual		
00218	Sandy Seeding		
00219	Cahill FRF		
00222	Fisher Lake		
00223	Hickey FRF		
00400	Paisley Common	■Loading corral	3,600 square feet
	Coglan Hills		
	Diablo Peak		
	Abert Rim	■Juniper removal/control	1,200 acres
00401	Fenced Federal		
00403	Pine Creek	■Pine Creek fence	1.4 miles
00404	Willow Creek	■Juniper removal/control; Coyote Meadows Pasture division fence	
00406	West Clover Flat		

Allotment number	Allotment name	Type of improvement	Units
00407	Clover Flat	■ Moss Creek Pasture use, fence, and spring development ■ Juniper removal/control	
00408	Schoolhouse	<i>Allotment no longer exists</i>	
00409	Tucker Hill	<i>Allotment is closed to grazing</i>	
00410	Tim Long Creek	■ Avery Creek fence	1 mile
00411	Jones Canyon		
00412	Fir Timber Butte	■ Juniper removal/control	
00415	Briggs Garden	■ Juniper removal/control	
00416	White Rock	■ Juniper removal/control	
00418	Squaw Lake	■ Juniper removal/control ■ Fences	1,700 acres 4 miles
00419	St. Patricks		
00420	Egli Rim		
00421	Rosebud		
00422	Paisley Flat		
00423	Hill Field	■ Portions could be included in Chewaucan prescribed burn project ■ Juniper removal/control	
00424	West Lake		
00425	Pike Ranch		
00426	Five Mile Butte	■ Giant Water Hole fence	1 mile
00427	XL		
00428	Sheeprock	■ Restoration	25,000 acres
00429	Twin Lakes		
00430	South Poverty	■ Shale Rock pipeline extension ■ Pasture division fence	5 miles 2.5 miles
00431	Narrows	■ Vegetation treatments	
00432	Coleman Seeding	■ Pasture division fence (south field)	3–4 miles
00433	East Jug	■ Venator Butte Well pipeline extension w/ troughs ■ Pasture division fence (north field)	2 miles
00435	Shale Rock	■ Shale Rock pipeline extension	5 miles 2.5 miles
00501	FRF Flynn	■ Drake Creek exclosure (fence)	1.5 miles
00502	FRF Fitzgerald		
00503	FRF Taylor		
00505	FRF Lynch		
00507	FRF Laird		
00508	FRF Rock Creek Ranch		
00509	Cox Butte		
00510	Orijana Rim		
00511	Northeast Warner		

Allotment number	Allotment name	Type of improvement	Units
00512	North Bluejoint		
00514	Corn Lake		
00515	Juniper Mountain	■Juniper removal/control	
00516	Rabbit Basin	■Pasture division fence and waterhole	5 miles
00517	Coyote-Colvin	■Windy Hollow division fence ■Install 2 cattleguards ■Juniper removal/control	4 miles
00518	Clover Creek	■Juniper removal/control	
00519	Fish Creek	■Juniper removal/control	
00520	Lynch-Flynn	■Pasture division fence	4 miles
00521	Priday Reservoir		
00522	Abert Seeding	■Noxious weed treatment ■Brush treatments	
00523	Warner Lakes		
00524	Lane Individual	■Juniper removal/control	1,000 acres
00529	South Rabbit Hills		
00530	East Rabbit Hills	■Pasture division fence	3 miles
00531	North Rabbit Hills		
00600	Beaty Butte	■Gathering/holding facility (fence)	5 miles
00700	Silver Creek-Bridge Creek		
00701	Upper Bridge Creek	■Juniper removal/control	
00702	Buck Creek-Bridge Creek	■Juniper removal/control	
00703	Bear Creek	■Juniper removal/control	
00704	Ward Lake	■Juniper removal/control	1,200 acres
00705	Oatman Flat	■Juniper removal/control ■Pipeline	3,100 acres 2 miles
00706	Rye Ranch	■Juniper removal/control	
00707	Tuff Butte	■Juniper removal/control	
00708	Arrow Gap		
00709	Dead Indian-Duncan	■Juniper removal/control	
00710	Murdock	■Fence relocation ■Juniper removal/control	3 miles
00711	South Hayes Butte		
00712	Bridge Well		
00713	Silver Creek		
00714	Table Rock		
00716	Silver Lake Lakebed		
00900	Fremont	■Fence	2 miles
00901	Wastina		
00902	Cinder Butte		
00903	Beasley Lake		



Allotment number	Allotment name	Type of improvement	Units
00904	Highway		
00905	Homestead		
00906	North Webster		
00907	Devils Garden		
00908	Cougar Mountain		
00909	Button Springs		
00910	Hogback Butte		
00911	Valley		
00914	West Green Mountain		
00915	Squaw Butte		
01000	Little Juniper Spring	<ul style="list-style-type: none"> <li>■ Dry Valley pipeline and storage</li> <li>■ Waterhole cleanouts</li> <li>■ Juniper removal/control</li> </ul>	11 miles 6–7 waterholes
01001	Alkali Winter	<ul style="list-style-type: none"> <li>■ Poor Jug pipeline extension and movement of troughs</li> <li>■ Hutton Springs pasture water development/pipeline</li> <li>■ Vegetation treatments</li> <li>■ East Venator pasture boundary fence</li> </ul>	4 miles   4 miles
01002	Bar 75 FRF		
01073	South Butte Valley	<ul style="list-style-type: none"> <li>■ Water development from existing well</li> <li>■ Vegetation treatments</li> </ul>	1 mile
01300	Becraft		
01301	Crooked Creek		
01302	Thomas Creek		
01303	O'Keeffe		
01305	Schultz		
01306	Simms		
01308	Barry		

**Table E5-1.—Grazing seasons in relation to months**

November	December	January	February	March	April	May	June	July	August	September	October
Winter				Spring			Summer			Fall	

Great Basin Experiment Station (approximately 50 miles north of the resource area) resulted in heavy utilization on 37 percent of the range; over an 11-year period, this produced a change in species composition toward less desirable bunchgrasses such as Sandberg's bluegrass. In studies concerning the grazing response of cool season perennial bunchgrasses, Cook (1971) showed that 50 percent utilization was too severe for continuous late spring and summer use. The two species of grass in the study correspond in stages of vegetative growth to the key bunchgrasses in the resource area.

## **Fall**

Under this system, grazing occurs approximately September 1–October 31. Grazing during this treatment will not begin until after most plants have reached seedripeness and have stored adequate carbohydrate reserves. This treatment will assist in meeting the objectives by providing all plants an opportunity to complete their life cycles and produce the maximum amount of cover and forage.

## **Spring/Fall Grazing Season**

Spring/fall grazing would result in utilization of the herbaceous key species during the early portion of their growing period. Very little use of the woody key species is expected during this time. Grazing would occur again in the fall when herbaceous key species are dormant; however, moderate utilization of woody key species would be expected. This system would maintain the vigor and reproduction of the herbaceous key species. Woody key species would decrease slowly in composition because stocking rates would be based on 50 percent utilization of herbaceous species, but utilization of the more palatable woody species during the fall season would be heavier.

## **Deferred Grazing System**

Under the deferred system, grazing would occur after most of the herbaceous key species have completed growth. Moderate utilization of the shrubs encourages growth of additional twigs, and therefore increases forage production. Reproductive capacity is decreased over the years, since increased twig growth reduces the development of flowers and fruits (Garrison 1953, *cited by* Stoddart et al. 1975). Where woody key species are found in limited numbers, some individual shrubs would be selected by cattle and heavily browsed, resulting in reduced vigor and eventual death of these plants; however, the total shrub mortality is expected to be insignificant. The critical growth period

for woody key species occurs in late summer.

Livestock normally concentrate in riparian areas under deferred grazing. Livestock use of the riparian areas under deferred grazing is expected to be light or moderate in several areas due to factors such as inaccessibility and lack of adequate shade and water on adjacent upland areas.

## **Deferred Rotation Grazing System**

Under the deferred rotation grazing system, grazing use during the critical growing period would be alternated with grazing during early spring or late summer/fall in successive years. Early spring grazing would end soon enough to give most herbaceous key species an opportunity to replenish food reserves and maintain good vigor. Late summer grazing would occur after food reserves of the key species have been stored. As a result, the vigor of the key species would be maintained at an acceptable level.

Reproduction of woody key species would not be improved because the sequence of grazing treatments does not provide sufficient protection from grazing to allow seed production and seedling establishment. No areas of riparian vegetation are located within the areas proposed for deferred rotation grazing.

## **Rotation Grazing System**

Rotation grazing results in key species being grazed during part of the growing season every year. This system alternates grazing between early spring use one year and during the critical growing period the next year. The early spring grazing would end in time for the key species to replenish food reserves (see Spring Grazing System). As a result, the decline in vigor caused by use during the critical period of the growing season is somewhat offset by early grazing in alternate years.

Since utilization levels would be moderate (50 percent), the rotation grazing system is expected to only slightly enhance the reproduction of the herbaceous key species on native range because every pasture is grazed each year. Many new seedlings would be grazed or pulled up before becoming established. Woody key species would improve in vigor and reproduction because they are normally not grazed by livestock during the spring and early summer (Vavra and Sneva 1978).

## Rest Rotation Grazing System

Rest rotation grazing results in moderate (50 percent) utilization of key species in the use pasture. Most of the use occurs during the growing season. Approximately 23–33 percent of the area is completely rested from grazing each year. The need for periodic complete rest from grazing arises from the fact that even at proper stocking rates, continuous grazing usually results in utilization of the most palatable plants beyond the proper use level. The heaviest use usually occurs on the most accessible areas, resulting in a decline in the key species composition. Hormay (1970) states that these species can be maintained by periodically resting the range from use by means of rest rotation grazing systems. Rest periods allow the plants to complete the stages of vegetative growth, seed production, and food storage. In addition, it provides for seedling establishment and allows litter to accumulate. Rest rotation would allow flexibility in livestock management during periods of drought.

In the Lakeview District, a comparison of the range conditions in allotments under rest rotation management with conditions in allotments under other systems showed that conditions were significantly better on the allotments under rest rotation. Approximately 26 percent of the acres in the rest rotation system were rated good condition, while about 15 percent of the acres under all other systems were in good condition (USDI-BLM 1982a).

## E6: Guidelines for Addressing Anticipated Drought Conditions in Oregon and Washington

The following criteria; taken from BLM Handbook 4100, Grazing Administration, Oregon/Washington Supplement Release 4-107; will be used in addressing requests for adjusting livestock grazing use as a result of drought conditions.

1. Credits for grazing fees that have been paid by lessees or permittees for which use cannot be made because of drought conditions will be approved. Refunds will be processed as appropriate (43 CFR 4170.7-2(b)).
2. Any shifts of grazing use between allotments must be consistent with the provisions of the grazing regulations under 43 CFR 4130.4-2, requiring the use to be

consistent with multiple use objectives and to not interfere with existing livestock operations on public lands.

3. Any proposal to change grazing use in a wilderness study area such as class of livestock, distribution, season of use, or stocking rate increases requires:

- a. A site-specific environmental analysis.
- b. A wilderness study area interim management policy analysis.
- c. A 30-day comment period by interested parties before a proposed change can be made.

4. Continued management/protection of riparian enhancement pastures/exclosures must not be compromised. Sensitivity to this issue is critical.

5. Grazing use may be adjusted within the management limits built into the existing grazing management system, provided prescribed land use plan objectives, livestock grazing management constraints, and wilderness study area management guidance are followed.

6. Provide support for water-hauling efforts by furnishing stockwater during drought, if available. To maintain accountability of troughs, cooperative management agreements will be used.

7. When adjusting use between pastures or allotments, the resulting use is not to exceed the established or current grazing capacity of the receiving pasture or allotment.

8. Any proposed grazing management adjustment should be analyzed to assure that the action would be consistent with existing land use plan objectives as well as the existing policy and guidance for management of wilderness study areas.

# Appendix F — Watershed and Water Quality

## F1: Ecosystem Analysis at the Watershed Scale

*The following is taken from “Ecosystem Analysis at the Watershed Scale: Federal Guide for Watershed Analysis - Version 2.2.”*

### Process Overview

Watershed analysis is a procedure used to characterize the human, aquatic, riparian, and terrestrial features, conditions, processes, and interactions (collectively referred to as ecosystem elements) within a watershed. It provides a systematic way to understand and organize ecosystem information. In doing so, watershed analysis enhances our ability to estimate direct, indirect, and cumulative effects of our management activities and guide the general type, location, and sequence of appropriate management activities within a watershed.

Watershed analysis is essentially ecosystem analysis at the watershed scale. Ecosystem analysis at the watershed scale provides the watershed context for (aquatic and riparian habitat) protection, restoration, and enhancement efforts. The understanding gained through watershed analysis is critical to sustaining the health and productivity of natural resources. Healthy ecological functions are essential to maintain and create current and future social and economic opportunities.

Federal agencies are conducting watershed analyses to shift their focus from species and sites to the ecosystems that support them in order to understand the consequences of management actions before implementation. The watershed scale was selected because every watershed is a well-defined land area having a set of unique features, a system of recurring processes, and a collection of dependent plants and animals.

Watershed analyses are conducted by teams of specialists who follow a standard, interagency six-step process. The process is issue-driven. Rather than attempting to identify and address everything in the ecosystem, teams focus on seven core analysis topics along with watershed-specific problems or concerns. These problems or concerns may be known or suspected before undertaking the analysis or may be discovered during the analysis. Analysis teams identify and describe ecological processes of greatest concern,

establish how well or poorly those processes are functioning, and determine the conditions under which management activities, including restoration, should and should not take place. The process is also incremental. New information from surveys and inventories, monitoring reports, or other analyses can be added at any time.

Watershed analysis is not a decision-making process. Rather it is a stage-setting process. The results of watershed analysis establish the context for subsequent decision making processes, including planning, project development, and regulatory compliance.

The results of watershed analysis can be used to:

- Assist in developing ecologically sustainable programs to produce water, timber, recreation, forage, and other commodities.
- Facilitate programs and budget development by identifying and setting priorities for social, economic, and ecological needs within and among watersheds.
- Establish a consistent, watershed-wide context for project-level NEPA analysis.
- Establish a watershed context for evaluating management activity and project consistency given existing plan objectives (such as the RMP).
- Establish a consistent, watershed-wide context for implementing the “Endangered Species Act,” including conferencing and consulting under section 7.
- Establish a consistent, watershed-wide context for local government water quality efforts and for the protection of beneficial uses identified by the states and Tribes in their water quality standards under the Federal CWA.

### Definition of “Watershed”

*Watershed* refers to any area of land that drains to a common point. However, the size of the area that one person associates with watershed may be quite different than the area another person has in mind. A watershed may be as large as the area that drains into the Columbia River or it may be as small as the area above a favorite fishing hole or hot springs. Both are techni-

cally correct. Before analysis at the watershed scale can begin, a consistent vision of the size of the area involved is needed.

Watersheds are hierarchical—little ones nest within larger ones. (See also the discussion of hierarchical scales in the appendix of the Subbasin Review Report.) A set of commonly used terms that describe relative sizes of geographic areas is shown in Table F1-1. Watershed refers to one level in the progression of geographic sizes. A watershed is smaller than a river basin or subbasin, but is larger than a drainage or site.

### Summary of the Six-Step Process

The process for conducting ecosystem analysis at the watershed scale has six steps:

#### 1. *Characterization of the watershed:*

The purpose of step 1 is to identify the dominant physical, biological, and human processes or features of the watershed that affect ecosystem functions or conditions. The relationship between these ecosystem elements and those occurring in the river basin or province is established. When characterizing the watershed, teams identify the most important land allocations, plan objectives, and regulatory constraints that influence resource management in the watershed. The watershed context is used to identify the primary ecosystem elements needing more detailed analysis in subsequent steps.

#### 2. *Identification of issues and key questions:*

The purpose of step 2 is to focus analysis on the key elements of the ecosystem that are most relevant to the management questions and objectives, human values, or resource conditions within the watershed. The applicability of the core questions and level of detail needed to address applicable core questions is determined. Rationale for determining that a core question is not applicable are documented. Additional topics and questions are identified based on issues relevant to the watershed. Key analysis questions are formulated from indicators commonly used to measure or interpret the key ecosystem elements.

#### 3. *Description of current conditions:*

The purpose of this step is to develop information (more detailed than the characterization in step 1) relevant to the issues and key question identified in step 2. The current range, distribution, and condition of the relevant ecosystem elements are documented.

#### 4. *Description of reference conditions:*

The purpose of step 4 is to explain how ecological conditions have changed over time as a result of human influence and natural disturbances. A reference is developed for later comparison with current conditions over the period that the system evolved and with key management plan objectives.

#### 5. *Synthesis and interpretation of information:*

The purpose of step 5 is to compare existing and reference conditions of specific ecosystem elements and to explain significant differences, similarities, or trends and their causes. The capability of the system to achieve key management plan objectives is also evaluated.

#### 6. *Recommendations:*

The purpose of this step is to bring the results of the previous steps to conclusion, focusing on management recommendations that are responsive to watershed processes identified in the analysis. By documenting logical flow through the analysis, issues and key questions (from step 2) are linked with the step 5 synthesis and interpretation of ecosystem understanding from steps 1, 3, and 4. Monitoring activities are identified that are responsive to the issues and key questions. Data gaps and limitations of the analysis are also documented.

## F4: Water Resources and Basic Hydrologic Principles

### Introduction

This appendix describes many of the principles and procedures used in the management of water resources in the LRA. The description contained in the appendix is meant to supplement what is contained in the Watershed Health and Water Resource sections of this document.

### Water Quantity

Oregon's latitude, topography, and location near the Pacific Ocean have a great influence upon its climate. The Coast and Cascade ranges play a major role in determining precipitation type and distribution. The prevailing air masses that move across Lake County from the Pacific Ocean have been greatly modified as a result of their passage over the Cascade Range. Conti-

**Table F1-1.—Hierarchy of hydrologic units, Lower Crooked Creek (171200060901)**

Hierarchy term	Hydrologic unit code	Numeric identifier	Name	Size (acres)
Region	First field	17	Pacific Northwest	165,757,150
Subregion	Second field	12	Oregon Closed Basins	11,072,000
River Basin	Third field	00	Subregion and river basin are the same (indicated by 00)	11,072,000
Subbasin	Fourth field	06	Lake Abert	652,800
Watershed	Fifth field	03	Crooked Creek	56,750
Subwatershed	Sixth field	01	Lower Crooked Creek	26,500

mental air masses that move down from the interior of western Canada are also a major weather factor.

Precipitation is an important climatic variable that influences land productivity and management. Interception occurs when rain or snow lands on vegetation rather than the ground. Some of this intercepted water evaporates and the remainder falls to the ground. Water also evaporates from the surface of water bodies and soil. Evapotranspiration is the process in which water is taken up by plants and then evaporates into the atmosphere.

Infiltration is the movement of water into the soil surface. Surface runoff is the distribution of water over land until it reaches a water body, or penetrates the ground, or evaporates. For example, when rainfall rates exceed infiltration rates water will travel over the ground as surface runoff or form puddles (surface retention). Generally, surface runoff can be quantified as the precipitation amount minus surface retention, infiltration, and evapotranspiration.

Soil compaction can significantly change the hydrology of a watershed by reducing infiltration rates and soil storage capacity. Infiltration rates and storage capacity are reduced by soil disturbance and compaction. Other changes in hydrology occur from the routing of runoff through culverts and ditches which cause rapid delivery of water to stream channels, possibly increasing the size of peak flows. Increases in peak flows appear to be related to the amount of soil compaction in a watershed, and can cause increased channel degradation and downstream sedimentation.

Soil compaction and vegetation or ground cover removal can cause increases in surface runoff which can affect the magnitude and duration of peak flows. The manipulation or removal of vegetation can affect the accumulation and melting of snow or the interception of rain. The level of change is related to the type of vegetation treatment and the various climatic and physical conditions of the site. Wildland fire, pre-

scribed burning brush treatments (such as crushing), and grazing can reduce ground cover (live vegetation and litter) and, in turn, increase surface runoff. It is important to manage for a healthy groundcover because vegetation and plant litter keep surface runoff spread out over the land and physically slows down runoff. This provides for more opportunity for infiltration and subsequent uptake by vegetation.

Livestock grazing can affect watershed function and process by alteration of plant cover, composition, and diversity and by soil disturbance and compaction from the physical action of animal hooves. Reductions in vegetation cover increases the impact of raindrops and decreases soil organic matter. These effects may cause increased runoff, reduce soil water content, decrease soil productivity, and increase erosion. The hydrologic effects of intense grazing are primarily related to infiltration and runoff. Increased runoff can increase upland sheet, rill, and gully erosion, resulting in stream sedimentation. Increase peak runoff can also increase stream energy causing bank erosion and downcutting. Reductions in water infiltration and storage can reduce the magnitude and duration of peak and low flows. Grazing can remove protective ground cover and disturb litter and soil; and trampling by grazing animals can compact surface soils. Adverse impacts to riparian vegetation from grazing can negatively affect the hydrology of a stream because riparian and wetland areas contribute to groundwater recharge and maintenance of low flows.

### Streamflow

Streamflow is the water that reaches the stream channel. Total streamflow is a product of all the other processes in the hydrologic cycle. Distribution of the annual streamflow is related to the distribution and type of precipitation. In the LRA, normal high flows occur in the spring and low flows are from July to October. Naturally low summer flows, combined with withdrawals for irrigation or other consumptive uses, can significantly reduce or eliminate summer

streamflows.

The amount (magnitude) of water draining from a given area in a year is the annual water yield and is usually expressed in acre-feet (1 acre-foot = 43,560 cubic feet). The average annual flow of streams is expressed in cubic feet per second.

The condition of a watershed which drains into a stream or lake determines how much water will be available for streamflow. Watersheds which capture, store, and release water at a rate appropriate to the physical and climate conditions will have the healthiest streams. Streamflows in the LRA are dependent on surface water and groundwater. Watersheds with healthy vegetation and soils will capture water with little surface runoff. Surface runoff at snow melt or heavy summer rainstorms can occur with the best conditions in some watersheds. Watersheds with little compaction will store the most water and it will be available to vegetation on site. When there is excess water it will percolate down to the groundwater or move through the soil to a lower elevation stream, lake, or spring. Any management which changes the rate of capture, amount of storage, or rate of release will change the amount of water available for streamflow.

## Water Quality

Sediment, stream temperature, turbidity, dissolved oxygen, and chemical composition are important water quality components that indicate the ability of a stream or lake to support the beneficial use designated by the State. The State's water quality requirements pertaining to BLM management in the planning area are found in Oregon Administrative Rules 340-41-0001 to 340-41-975. The ODEQ is required by the CWA to review water quality standards every 3 years. Currently ODEQ is reviewing and proposing changes to the stream water temperature standard.

### *Stream Temperature*

Water temperature is an important factor for survival of aquatic life. Most aquatic organisms are adapted to thrive with a limited range of temperatures. The primary concern with increases in water temperature is the potential for detrimental effects on fish and other aquatic organisms. Water temperatures above optimum can be attributed to natural and human-induced factors. Natural factors include low summer flows, high summer air temperatures, wide channels, stream orientation, and geology.

Increases in the amount of sunlight (solar radiation)

which reaches the water surface is the main cause of increase water temperatures from management activities. Shade from riparian vegetation can be a factor in keeping streams cool. Stream temperatures may be affected if riparian vegetation is removed from streambanks. Livestock grazing can cause water temperature to increase by removal of riparian vegetation and widening and shallowing the stream channel by trampling. These changes in the shape of the stream increase surface area and exposure to solar radiation. Because of the increased surface area, a wide shallow stream will heat more quickly than a deep narrow stream. The color and composition of the streambed, the amount of water in a stream, the amount of sediments suspended in the water, and the direction that a stream flows all affect how fast and how much a stream may become heated. The magnitude of change is dependent on the temperature and quantity of groundwater inflow as well as inflow from other tributaries.

### *Sediment and Turbidity*

Sediment, or particulate matter, is suspended as settleable solids of organic and inorganic material in the water column. Sediments occur naturally in water as products of weathering and erosion. Wind, water, or frost action exert a force on rock surfaces resulting in the gradual breakdown of rock into fine particles. Nutrients necessary to plant and animal life (iron, phosphorous, sodium, and others) are transported as sediments using rivers and streams as pipelines.

Erosion and sediment transport are natural processes that can improve, maintain, or degrade streams and riparian areas. Water erodes gravel streambanks to provide a continuing source of gravel for a stream, shifts gravel bars, and forms or deepens pools—all of which benefit spawning and rearing fish. However, excess erosion of fine-textured soils such as clays, silts, and fine sand can reduce habitat quality by filling in or smothering spawning gravels. This type of sediment can cause adverse effects when suspended in the water column or when deposited. Some common measurements of sediment are turbidity, suspended sediment, settleable solids, and percent accumulated fine materials.

Suspended sediments are those carried in suspension in the water column. Rapidly flowing water can carry more suspended sediments than slow moving water. As water flow slows, the largest particles settle to the bottom first. The lightest sediment particles are suspended the longest. Thus, clay particles, which are quite small, stay suspended longer than sand particles. Suspended sediments can give water a murky or cloudy

appearance by reducing light penetration. Excessive suspended sediment clouds water and can cause fin and gill damage to adult fish. Excessive deposition of suspended sediment in lower-gradient reaches clogs interstitial spaces in gravel and cobble of spawning habitat and can reduce pool volume, which in turn lowers production of fish, macroinvertebrates, and most other aquatic life. Chemicals, pesticides, and nutrients often bind to sediment particles, thus they can be retained in the stream system with the deposition of sediment.

Turbidity is the measurement of how light is scattered and absorbed. How light passes through the water column is dependent on the amount and type of suspended sediment. Water quality requirements are usually set in turbidity units rather than in terms of suspended sediment. Chapter 340 of the "Oregon Administrative Rules" sets a standard of no more than a 10 percent cumulative increase in natural stream turbidity to be allowed, as measured relative to a control point immediately upstream of the management activity.

The effects of management uses and activities on sediment transport are directly related to the effects on high precipitation and peak flow events. The supply of sediment available for transport depends on the slope of the sediment contributing area and the type of erosion processes that dominate in the area. On gently sloping topography with competent bedrock, little if any natural erosion can be expected. Management which changes the condition of vegetation or soils can change the amount of material available for transport to streams and lakes. Soil erosion is a source of sediment in streams and lakes. Some soil erosion is natural and transported by water and wind. However, the main causes of excess soil loss are agricultural practices, timber harvesting, road and building site construction, livestock grazing, and mining activities.

Ground-disturbing activities can affect sediment levels in streams by increasing the capacity of the stream to entrain and transport sediment and increase the amount of sediment available for transport. Increases in peak flows have a direct relationship to increase in sediment transported downstream. Management practices can also influence the amount of sediment entering streams through increased surface erosion. This influence is dependent on natural rates of surface erosion, climatic factors, and the type of management.

Roads can be a source of stream sediment. Surface erosion from road surfaces, stream crossings, and drainage ditches can result in a continuous sediment

source for nearby streams. Roads that encroach on stream channels permanently alter the stream flow characteristics by diverting or constricting the channel. Increased water velocities associated with constriction frequently lead to accelerated channel erosion.

Livestock grazing can alter water quality by changing hydrologic conditions with a given watershed, primarily surface cover and soil infiltration rates. Lack of ground cover and amount of exposed soil can influence the amount of surface runoff, soil erosion, and transport of eroded material to streams and lakes. Moderate to heavy livestock grazing can decrease infiltration rates, and increase surface runoff, soil compaction, soil erosion, and sediment yields. Livestock grazing can cause collapse of streambanks from trampling and the subsequent increase in sediment entering the stream or lake.

### ***Dissolved Oxygen***

Oxygen is as essential to life in water as it is to life on land. Oxygen availability determines whether an aquatic organism will survive and affects its growth and development. The amount of oxygen found in water is called the dissolved oxygen concentration and is measured in milligrams per liter of water. Dissolved oxygen levels are affected by altitude, water agitation, water temperature, the types and amount of plants in the water, light penetration, and the amount of suspended sediment. Water absorbs oxygen from the atmosphere and the mixing of air and water in turbulent stretches of a stream add significant amounts of oxygen to the water. Temperature directly affects the amount of oxygen in water—the colder the water the more oxygen it can hold. Warming of water will cause reductions in dissolved oxygen concentrations. Oxygen can also be added to water as a result of plant photosynthesis. If photosynthesis is inhibited by sediments either by making the water murky or by burying organic material, then the plants will add less oxygen to the water.

### ***Macroinvertebrates***

Macroinvertebrates are those invertebrates that can be detected with the unaided eye. Macroinvertebrates in the aquatic environment provide a link in the food chain between microscopic, multicelled organisms and fish. They are essential to the growth and production of fish, and because of their strict habitat requirements, are very useful indicators of aquatic habitat changes. A healthy stream usually has a rich and varied range of macroinvertebrates, while streams with poor water



quality will have just a few different species. The diversity of macroinvertebrates is important, but the types of organisms can also indicate water quality. Other factors also influence the types of aquatic organisms that can be found in the stream. Each organism has needs for specific habitat and food; if the stream does not have either, then the organism will not be present. For example, some aquatic organisms feed on leaves or other organic material, others filter out small particles from the water, some scrape algae from rocks, and some are predators that feed on other macroinvertebrates. Also, some aquatic organisms attach to rocks while others live in vegetation. If a macroinvertebrate is not found in an area where it has food and habitat available, then poor or stressful water quality conditions may be present.

## **Appendix G — Noxious Weeds**

Herbicides approved for use (“Vegetation Treatment on BLM Lands in Thirteen Western States EIS and Record of Decision”).

- Atrazine
- Bromacil
- Bromacil + Diuron
- Chlorsulfuron
- Clopyralid
- 2,4-D <sup>1</sup>
- Dicamba <sup>1</sup>
- Dicamba + 2,4-D <sup>1</sup>
- Diuron
- Glyphosate <sup>1</sup>
- Glyphosate + 2,4-D <sup>1</sup>
- Hexazinone
- Imazapyr
- Metfluidide
- Metsulfuron Methyl
- Picloram <sup>1</sup>
- Picloram + 2,4-D <sup>1</sup>
- Simazine
- Sulfometuron Methyl
- Tebuthiuron
- Triclopyr

<sup>1</sup> Chemicals currently approved for noxious weed control on BLM-administered lands in Oregon.

# Appendix H — Fish and Wildlife

## H2: Wildlife and Wildlife Habitat of the Lakeview Resource Area

### Introduction

As a public land administrator in Oregon, the BLM is responsible for management of a wide array of habitats used by native and introduced wildlife species. The ODFW is responsible for managing animal populations. An animal, however, is inseparable from its habitat. Therefore, a management program designed to benefit wildlife must consider both the animal population and its habitat (food, water, and cover). The BLM's role in the management of wildlife species and their habitat is in cooperation with ODFW and is directed toward the maintenance, improvement, and expansion of the quality and quantity of habitat under multiple use management. The BLM has coordinated with ODFW during development of the analysis of the management situation and the RMP/EIS to ensure that adequate data was assembled on both wildlife populations and their habitat to form the information base needed for the development of the RMP.

Numerous species of wildlife occur in the LRA. However, only priority species or taxa and their associated habitats are discussed here. These animals are recognized as either being of particular interest to the public, federally listed as threatened or endangered species, designated as special status by the BLM, and species of concern designated by the USFWS. A subset of the priority taxa will be highlighted to provide background information and specific management opportunities relative to them.

### Priority Habitats

Priority habitats are the major plant communities or terrestrial features that are important to wildlife. Certain species or groups of species of wildlife require these priority habitats for parts or all of their life cycle. Priority wildlife habitats include wet meadows, dry meadows, playas and lakebeds, cliffs and caves, talus slopes and lava beds, brushfields, and forest and woodlands.

### *Wet Meadows*

Wet meadows are unique riparian habitat. They occur on areas of saturated soils where the water table varies little by season. Usually there are few, if any, areas of free-standing, open water. The vegetation of wet meadows consists of sedges, grasses, and forbs. Shrubs are absent from wet meadows in proper functioning condition except along the margins, although some meadows may have willows present.

Wet meadows are often found in draws or depressions in the surrounding landscape. They often are associated with headwaters of streams or below natural seeps or springs. Wet meadows furnish a unique habitat type for several vertebrate wildlife species such as jumping mice, microtine rodents, sparrows, and greater sage-grouse. At night, these meadows are used by bats because of the abundance of insects and open flight conditions necessary for foraging.

Big game animals, such as elk and bear, sometimes use meadows as foraging sites and wallows. Deer also use wet meadows to feed and as fawning areas. Because plants and animals depend upon or use these areas, this habitat is an important component of habitat diversity.

Most wet meadow habitats are very easily impacted. Actions such as road building, grazing, and off-highway vehicle (OHV) use can severely impact or destroy wet meadows and their associated vegetation.

Adjacent road construction may interfere with or change water flows. In some instances, culvert placement can affect drainage which may affect the meadow. Roads also allow easier access by humans, livestock, and vehicular traffic.

Grazing results in direct impact to plants and if grazing consistently occurs during critical seasons, complete elimination of some plant species is possible. Plant reduction or elimination also reduces habitat for some small mammals and/or bird species. Trailing and trampling can cause erosion long after grazing ends.

OHV use causes severe impacts in a short period of time. Rutting and destruction of vegetation caused by vehicles may lead to annual erosion problems, change water flow patterns, and adversely impact vegetation.

Wet meadow habitat is very limited within the LRA and it is the riparian area that is most susceptible to

damage from land use activities.

### ***Dry Meadows, Playas, and Lakebeds***

These areas are often caused by shallow soil conditions and are usually associated with a harsh environment. Because of the shallow soil and the exposure of these areas, they tend to warm up early in the spring. This allows early spring growth of forbs and some grasses. This early green-up is extremely important to big game on winter ranges. The early flush of plants provides nutrition during this critical late winter/early spring period. The shallow soil, however, causes forage to dry up at a much faster rate than plants growing on deeper soil. These areas provide an array of early season forbs that are important to nesting greater sage-grouse and their broods, as well as pronghorn and their young. Both species are sagebrush obligates that feed on sagebrush 75 to 90 percent of the year but rely on the higher protein content of forbs when they are present. Dry meadows also provide seeds for small mammals, birds, and insects (both terrestrial and aerial), and for greater sage-grouse broods and bats.

Impacts to these areas are similar to those impacting wet meadows. The severity of the impacts depends on soil conditions at the time of the disturbance. If the meadow is completely dry, impacts would be slight except for the removal of vegetation. However, repeated disturbance or disturbance during soil saturation could have major impacts.

In the planning area, the development of pits and reservoirs in natural lakebeds has concentrated livestock use and has caused a major shift in forb distribution, density, and availability. Available water is concentrated in the immediate pit instead of being spread out over the entire lakebed. This reduces the area of saturation available to forbs and the length of time different species of forbs are able to develop. Some pits have also broken the playa seal and water is completely lost from the lakebed system. Approximately 75 percent of the natural lakebeds in the resource area have been developed with pits; however, no development has occurred in the last 15–20 years.

### ***Seasonal Wetlands***

These unique habitats are seasonally flooded marshes that contain water in early spring during normal water years and dry out progressively in late spring or summer. During drought cycles these marshes may contain little if any standing water throughout the year and during prolonged wet cycles may contain water and emergent marshland vegetation for many years in a

row. Waterfowl and shorebirds forage in these areas during annual spring and fall migrations for insects and seeds, and many use these areas in the spring for courtship and nesting. As these seasonal marshlands dry up, the birds move their young to other more permanent marshes when available. If the water remains until mid- to late July, most young birds have already fledged and are capable of flying to new areas.

As in the wet meadow environment, as the water recedes, a flush of forbs and grasses emerge along the water edge of the remaining marsh. This green growth is also important to deer, elk, pronghorn, greater sage-grouse, and many other species.

Major impacts to these areas in the planning area are OHV use, livestock grazing, and the introduction of noxious weeds and other undesirable plant species which are very difficult to control during high water years. OHV use can interfere with courtship and nesting, as well as destroy nest sites and cause serious erosion. If major erosion occurs below the high water mark of the wetland, it could cause the marsh to drain or not fill to its full potential. This could create a functioning-at-risk or nonfunctional situation for the wetland.

Grazing can be compatible with these marsh wetlands if timing, duration, and intensity is controlled. Grazing, along with haying/mowing and prescribed burning can be used as a management tool to remove old, decaying plant materials and open up closed cattail/tule marshes. If livestock grazing is used as a tool, close monitoring is necessary to assure that the objectives are met and there is no damage to the wetland integrity. All natural spillways, manmade dikes, and other structures must be closely monitored to protect the integrity of the system. Proper rest for the wetland is required after grazing to build up an adequate residual dense cover base for nesting waterfowl and shorebirds.

Prescribed burning is the preferred management tool for wetland vegetation. Natural and manmade structures can be easily protected and nutrients can be more efficiently cycled back into the system as opposed to the loss of nutrients from the system in the form of hay removal and beef production.

There are approximately 135,000 acres of wetlands in the LRA and in the planning area. Of that total, 46,000 acres are classified as palustrine and 89,000 acres are lacustrine. Proper functioning condition ratings have been completed on 126,000 acres of wetlands in the LRA or 93 percent completed. The remaining 7 percent will be prioritized and completed when allot-

ment evaluations and rangeland health assessments are completed for each remaining allotment or at the completion of projects affecting wetland resources.

Lentic proper functioning condition has been completed on 126,000 (93 percent) of the 135,000 acres of wetlands (including playa lakebeds) occurring throughout the resource area (see Appendix H). There were approximately 200 acres rated as functioning-at-risk with a downward trend and 100 acres rated as nonfunctioning. The factors that caused these ratings were dewatering due to gully and head-cutting. These problems will be analyzed when feasibility studies are conducted on playa/lakebed restoration potential (management goal 6, Alternatives C and D under Riparian Restoration).

The four largest wetland complexes within the planning area are Warner Wetlands (approximately 20,000 acres of wetland habitat), Lake Abert (approximately 40,000 acres), Summer Lake (approximately 20,000 acres), and Shirk ranch (approximately 8,000 acres). These four areas occupy 65 percent of the wetlands in the planning area with the remaining 35 percent spread across the resource area. Many of the remaining allotments contain less than 50 acres of wetland habitat.

Warner Wetlands and Lake Abert were designated ACEC's in the Warner Wetlands and Lake Abert plan amendments (1990), respectively. Summer Lake is managed cooperatively with the ODFW through a memorandum of understanding and the 1993 "Sike's Act Habitat Management Plan." The ACEC plans and habitat management plan prescribe management direction for development and maintenance of the three areas to improve waterfowl and shorebird habitat.

### **Cliffs and Caves**

Relative to wildlife, a cliff is any vertical rock face or structure that furnishes unique habitat niches for wildlife species. Cliff habitat may exist as rock spires, vertical scarps, volcanic dikes, or other vertical geomorphic structures. Cliff habitat may not always occur naturally. Structures such as buildings and bridges create cliff-type habitat that can be used by some species. Road cuts and quarry faces may also furnish satisfactory niches for cliff dwellers.

The physical qualities of individual cliff systems may affect the types or groups of species present. Natural cliffs are usually more complex than man-made habitat. Natural rock faces usually have a complex of habitat components such as crevices, cracks, and ledges. A species habitation of an area can be influenced by

factors such as cliff aspect, height, relationship to the surrounding land forms, degree of disturbance, and types and extent of adjacent habitat.

Peregrine falcons use horizontal ledges to build nests located at a preferred height and aspect with the sun. They also locate their nest site close to an adequate prey base and at a specific distance from other peregrines. Swallows and bats also rely on cliff habitat to nest, roost, and raise their young.

Cliff habitat can be directly or indirectly impacted. Direct impacts can be through slumping or the modification of an area through mining, decorative stone collection, and construction projects. Indirect impacts can happen when nearby activities cause too much disturbance or when adjacent associated vegetation or habitats are modified.

The reduction or modification of vegetation cover influences the micro-climatic conditions of the site and can render some cliffs uninhabitable by certain species. A reduction in structural components, represented by changes in adjacent vegetation, may remove critical elements that maintain food or prey bases, furnish cover, or provide other elements required by some species during some part of their life cycle.

Mining affects cliff habitat in several ways. Access and disturbance to the site may cause some species not to use the site. Removal of vegetative cover causes micro-climatic changes that may extend beyond the immediate mining area. The most direct impact caused by mining would be the modification or removal of the cliff face itself. Usually impacts to vegetation are temporary and may be reestablished given time and the reduction or elimination of the disturbance. Mining may completely remove or alter the base habitat to an extent that the intrinsic habitat values to many species will be totally eliminated.

There are numerous caves that occur on the resource area that provide habitat for bats and other small mammals. Most are located in the lava fields at the northern end of the resource area. There is one large cave (Derrick Cave) and a collapsed lava tube (Crack-in-the-Ground) near the lava beds that are important to bats and other species. These areas receive a large amount of recreational use which can disturb bats. The remaining caves throughout the resource area are very small, unnoticeable depressions in the rock that receive little use.

### ***Talus Slopes and Lava Beds***

Talus is an assemblage of loose, baseball-size to large, boulder-size rock that is located at the base of a cliff or steep slope. Talus slopes are described by the size of the talus accumulation. Those with smaller rock are called scree slopes while those containing large boulder-sized aggregations are called fell fields.

Rock size and moisture regimes usually determine which species use the interspaces between the rocks. Amphibians use the moist areas; they require this micro-climate to survive. Drier talus slopes are important to reptiles such as lizards and snakes. If the talus is deep and protected from severe weather, snakes will use the area for denning sites. Woodrats and mice also use the dry areas of the talus, especially if some vegetation is present nearby.

Animals such as pika and yellow-bellied marmots may be present in a talus that contains large boulder-sized rock components. If the talus contains boulder spaces that are large enough, it can serve as hibernacula for bats and can be used as den sites for large mammals such as coyote, bobcat, and mountain lion.

Lava beds are found mainly in the northern portion of the resource area. The lava beds create extremely rugged terrain and are covered by geologically recent lava flows. The rugged areas of relatively undisturbed native sagebrush-steppe vegetation, including antelope bitterbrush, juniper, and ponderosa pine, are used regularly by bighorn sheep, mule deer, and elk.

Mining slab lava and collecting decorative stone may alter the base habitat to the extent that the intrinsic habitat values to many species may be totally eliminated. Disturbance (depending on severity) of wildlife species, especially bighorn sheep, may cause animals to leave the area completely.

### ***Brushfields***

There are several types of brushfields in the LRA. Occupying over 2 million acres (63 percent) of the planning area, brushfields range from the greasewood, basin big sagebrush, and silver sagebrush communities found at lower elevations surrounding playas and lakebeds, to Wyoming and mountain big sagebrush sites at middle to high elevations, to low sagebrush found in scabflats with shallow soil, to Ponderosa pine/antelope bitterbrush/mountain mahogany sites that are located on the forest fringe and important to the wintering of big game animals.

Brushfields are important to several species of wildlife. Several passerine birds depend on brushfields for most of their life cycle. These birds nest in the fields and forage on seeds, buds, or insects in the area. Some birds such as quail and greater sage-grouse also rely on them as wintering habitat. Sage grouse and pronghorn rely on sagebrush for the majority of their life cycle needs. They forage on sagebrush throughout the year and switch to forbs and some grasses when this vegetation is green and available. Deer and elk winter on antelope bitterbrush, big sagebrush, and mountain mahogany, then switch to early green-up grasses and forbs in the spring.

The potential impacts to brushfields are wildfire conversion, juniper encroachment, and habitat modification by livestock grazing which can reduce or eliminate the herbaceous component over time. Grazing can also impact brushlands by competing with big game for forage and eliminating flowering and seed set. Competition between domestic livestock and wintering mule deer for bitterbrush and early green-up grasses has been minimized in the Fort Rock/Silver Lake mule deer winter range allotments through turn-out date adjustments. There is no turn-out prior to April 15 each year in the 700 series allotments.

Large catastrophic wildfires or escaped prescribed burns can remove hundreds of thousands of acres of wildlife habitat. It could be many decades before the land could regenerate itself and provide adequate habitat for greater sage-grouse, mule deer, pronghorn, and many shrub-steppe obligate species. The reason it could take many decades is because many of the shrubs throughout the resource area do not always respond favorably to fire, and/or they are located in areas where cheatgrass, rabbitbrush, or noxious weed invasion is likely.

The cumulative impacts of present and future brushland losses in combination with agricultural conversions and crested wheatgrass seedings installed in the past has been hypothesized as a possible reason for the current decline of the greater sage-grouse throughout the western states.

Juniper encroachment into brushlands is causing a shift in some areas from shrub-steppe sage brushlands to closed juniper woodlands and the eventual loss of the shrub component. This would negatively impact shrub-steppe species and positively impact juniper woodland obligates.

Road development through brushfields increase access and potential disturbance to wintering big game and

strutting greater sage-grouse. This problem has been minimized in the Fort Rock/Silver Lake mule deer winter range through a 1995 "Cooperative Road Closure Memorandum of Understanding". This memorandum restricts certain activities between the period of December 1 through March 31 each year and stipulates that motor-propelled vehicles shall be restricted to open roads only and a special use permit is required for entry. Persons granted a permit by the BLM or USFS are not allowed to carry firearms in vehicles. This road closure is in cooperation with the BLM, USFS, ODFW, Oregon State Police, and private landowners.

### ***Forest and Woodlands***

Approximately 250,000 acres (8 percent) of the LRA consists of the forest and woodland habitat type. This includes approximately 215,000 acres of juniper woodland; 14,000 acres of ponderosa pine forest; 1,200 acres of mixed conifer forest; and 16,000 acres of streamside riparian, springs, seeps, and quaking aspen stands. A complete description of each vegetative type can be found in the plant community section in Chapter 2.

Juniper woodlands are important habitat for mule deer and elk in areas where the shrub and understory grass/forb contact still remain. Juniper trees and shrubs provide thermal cover for wintering deer and elk and hiding cover throughout the year. Areas where the shrub and understory are lost provide opportunities for winter range enhancement. Juniper has also expanded out into the shrubland habitat important to greater sage-grouse and other sagebrush-dependent species. Greater sage-grouse would benefit from future juniper management projects, both prescribed fire and mechanical treatment.

The 15,000 acres of ponderosa pine and mixed conifer forests provide habitat for deer and elk, as well as bald eagles, goshawks and other raptors, and numerous bird and small mammal species. The LRA does not have an allowable cut for pine and fir, but can initiate forest health projects (prescribed fire and mechanical treatment) to maintain and protect these stands.

The 16,000 acres of streamside riparian, seeps and springs, and quaking aspen are also important habitat types for mule deer fawning and bat foraging, and provide habitat (food, water, and cover) for numerous small mammals and birds. These critical habitat types benefit greatly from maintenance and enhancement projects, both prescribed fire and mechanical treatment.

### **Priority Species**

A listing of priority animal taxa (groups such as species, genus, family, order, class, and phylum) was developed using the following criteria: Federal threatened, Federal endangered, proposed threatened, proposed endangered, BLM special status, species of high public interest, and USFWS species of concern. The last category includes game animals, raptors, and species proposed for listing.

#### ***Birds***

**Bald eagle:** The bald eagle was listed in 1978 as a Federal threatened species in Oregon under the "Endangered Species Act" and may be taken off the list in the future by the USFWS. Under the "Endangered Species Act", Federal agencies are directed to ensure that any actions authorized, funded, or conducted by them do not jeopardize the continued existence of a listed species or result in the modification or destruction of critical habitat. The Act also applies to old candidate species now considered BLM sensitive and relates to actions that would cause the need to further list the species.

The reason for possibly removing the bald eagle from the threatened list is that recovery goals identified in the 1986 "Recovery Plan for the Pacific Bald Eagle" have been met. Habitat for bald eagles within the seven-state Pacific Recovery Zone (Oregon, Washington, Nevada, California, Idaho, Montana, and Wyoming) has been secured; population levels in specific geographic areas has been reached.

The following population goals have been met for the recovery of bald eagles as identified in the recovery plan:

- A minimum of 800 nesting pairs in the Pacific Recovery Area.
- Average reproductive rate of 1.0 fledged young per pair, with an average success rate per occupied site of not less than 65 percent.
- A breeding population in at least 80 percent of the management zones with nesting potential.
- Stable or increasing wintering populations.

The management/maintenance needs identified in the plan to keep the species recovered are habitat protection and management, augmentation of populations,

increased law enforcement and public awareness, and continued research on eagle requirements to provide future management direction.

The key to reaching recovery goals is management of habitat important to the species' survival. Key occupied areas and potential nesting habitat have been identified. Land management agencies should provide for eagle requirements in both key areas and potential nesting areas, and eagle habitat management must be a primary consideration in key occupied areas.

Habitat occupied by bald eagles must continue to be protected and managed after bald eagles have reached their recovery levels. Forest stands used by eagles must be managed to maintain the long-term availability of nest sites, roosts, and foraging habitat.

Another critical element of post-recovery efforts will be the continued frequent monitoring of populations and productivity. Such monitoring will be the only means by which managers will be alerted to population declines.

Inventories of nesting bald eagles within the LRA have been conducted annually since 1979 by the Oregon Cooperative Wildlife Research unit, Oregon State University, Corvallis, Oregon; the Oregon Eagle Foundation in cooperation with BLM; and USFS wildlife biologists. The surveys over the years have only found one bald eagle nest on BLM-administered lands; however, at least six bald eagle nesting pairs utilize BLM-administered lands for foraging.

Inventories of wintering bald eagles, foraging areas, and communal night roosts have been conducted within Lake County by BLM, USFS, and Oregon Eagle Foundation biologists. Bald eagles forage in the winter on BLM, USFS, and private lands in the Fort Rock, Warner, Goose Lake, Crooked Creek, Chewaucan Marsh, and Silver Lake, Christmas, Paulina Marsh, and Summer Lake valleys. A communal winter roost has been located on the USFS/BLM-administrative boundary in North Lake County.

Bald eagles select large, old growth trees primarily in ponderosa pine, mixed-conifer forest types to nest (Anthony et al. 1982). Anthony also noted that most nests (84 percent) are located within 1 mile of large bodies of water, such as lakes and reservoirs. Nest trees were found to be the larger, dominant or codominant trees in the stand and were usually components of old growth forests. The nest trees selected usually have an open view of the area, a clear flight path to and from the tree, and suitable perch trees nearby. Occa-

sionally large snags and osprey nesting platforms are used.

Bald eagles feed primarily on fish during the spring/summer but may shift to waterfowl, rodents, and carrion in the form of deer carcasses in the winter.

Nesting and wintering bald eagle habitat is affected by human disturbance. Activities such as urban and recreational development, timber harvesting, mineral exploration and extraction, and all other forms of human activity adversely affect the breeding, wintering, and foraging areas of bald eagles by both the immediate action and cumulative long-term effects (USFWS 1986).

Actual known losses of bald eagles in Lake County have been collisions with powerlines and vehicles, and electrocution. Other reported cases have been shooting, lead poisoning, and possible pesticide contamination, the latter causes egg shell thinning which leads to lower productivity (USFWS 1986).

Loss of known nesting or roosting habitat has not occurred on the planning area. Continued monitoring and inventory by BLM, USFS, and Oregon Eagle Foundation of eagle habitat during the past decade has identified the additional three nesting pairs within or directly adjacent to the planning area. This increase is indicative of increases shown statewide with the number of nesting sites doubling since 1980 (Isaacs and Anthony 1988). Although a portion of this increase can be attributed to intensified surveys, it suggests an upward trend in the population and supports the population goals set forth in the "Recovery Plan for the Pacific Bald Eagle".

Our current management direction is outlined in the "Working Implementation Plan for Bald Eagle Recovery in Oregon and Washington," (USFWS 1989). This plan provides specific direction for the management of bald eagle nests and roost sites. The LRA is also cooperating with the USFS and has set up a Bald Eagle Management Area for each of the nests occurring on the USFS/BLM administrative boundaries. The goals, objectives, and stipulations agreed to in the joint Bald Eagle Management Area are taken out of the implementation plan.

**Golden eagle:** The golden eagle is a species of high public interest and is given consideration when planning resource activities. The golden eagle is not federally listed; however, it is protected under the "Eagle Protection Act" of 1963. No systematic inventories have been completed for golden eagles or their



habitats in the LRA. However, records of sightings and nest sites are maintained. We do not know of all the golden eagle nest sites on the LRA, but we have surveyed most of the better cliff habitat.

Golden eagles construct large stick nests on cliffs and sometimes will nest high within the canopy of large conifers. Golden eagles prey on rabbits and hares, marmots, squirrels, deer fawns, and other small to medium-sized animals. The major impacts to golden eagles or their habitat are disturbance near the nest during the nesting season as a result of mining and blasting operations and modification or destruction of the nest site itself.

**Peregrine falcon:** The peregrine falcon was federally listed as an endangered species throughout its range under the "Endangered Species Act", and as a State endangered species under the Oregon "Endangered Species Act" (Oregon Revised Statutes 1987). In 1999, the peregrine falcon was delisted after reaching the recovery goals set forth in the 1982 "Pacific Coast Recovery Plan for the American Peregrine Falcon".

The recovery plan called for 185 productive nesting pairs with a 5-year average fledging success of 1.5 young per active pair within its former range in the Pacific States to delist the species. This benchmark was met in 1999 and USFWS removed the peregrine from the list.

Inventories conducted by the Wilderness Research Institute, Incorporated, (1982) revealed no active peregrine nests on BLM-administered lands within the planning area. One active peregrine nest was detected on USFS land adjacent to the resource area. However, it was determined that there was some suitable habitat along Fish Creek Rim, between Plush and Adel, Oregon, where researchers concentrated their search. Peregrines have historically nested along Fish Creek Rim prior to 1948, but no nesting has been observed since. Pagel surveyed all suitable peregrine falcon nesting habitat on BLM-administered lands within the resource area in 1999 and found no active peregrine nests (Pagel 1999). He also expanded his search to other potentially suitable rims within the LRA and plans to continue the study in future years to cover the entire LRA.

There are two hatch sites where young peregrines hatched in captivity were reintroduced into the wild in Lake County. One site is in the Warner Valley and one in the Summer Lake Basin. Approximately 15–20 peregrines were successfully reintroduced into the wild through cooperative efforts of the BLM, USFS,

USFWS, ODFW, and the Peregrine Fund. Many of the released birds have been observed in the Warner Valley, Summer Lake Basin, and Abert Lake area since the reintroductions, and one pair has been observed successfully nesting on Winter Rim on USFS-administered lands.

The peregrine falcon is a cliff-nesting species, preferring tall cliffs with ledges, or small caves that are suitable for constructing a nest scrape (USFWS 1982). Nest sites are usually associated with cliffs near water with an abundant population of nongame birds, shorebirds, and waterfowl, the peregrine's primary prey. Fish Creek Rim contains suitable habitat but no known nests. One possible reason is that during prolonged drought cycles common to eastern Oregon, Warner Valley is totally dry, and as a consequence, shorebird and waterfowl numbers are down or nonexistent. When a wet cycle occurs, it takes 2–3 years for waterfowl and shorebirds to relocate the area and provide the prey base necessary for peregrines to successfully nest.

Abert Rim contains some suitable nesting habitat. However, it, too, is susceptible to drying out, thus reducing the number of migrating and nesting shorebirds that visit it annually. Summer Lake Basin maintains some water even during drought years as a result of management on ODFW's Summer Lake Management Area. It attracts enough shorebirds and waterfowl to provide a prey base for nesting and resident peregrines.

Disturbance from development activities such as mining and decorative stone collection, chemicals in the environment, and harassment from human activities negatively influence peregrine falcon habitat and populations. Development activities, such as road construction, and disturbance by recreational activities, such as rock climbing, can render nest sites unusable. Development projects such as the draining of wetlands directly adjacent to peregrine nest sites can adversely affect the habitat and availability of prey species such as waterfowl and shorebirds. This directly influences the suitability of an area for peregrine occupancy and reproductive success.

**Other raptors:** Many other raptors occur within the LRA and are of high public interest. These include, but are not limited to northern pygmy owl, osprey, northern harrier, sharp-shinned hawk, Cooper's hawk, northern goshawk, Swainson's hawk, red-tailed hawk, ferruginous hawk, rough-legged hawk, American kestrel, merlin, prairie falcon, barn owl, great horned owl, western burrowing owl, long-eared owl, short-eared owl, and turkey vulture. Some of these species are

provided special management as BLM sensitive species, and three of these—the western burrowing owl, northern goshawk, and ferruginous hawk—are USFWS species of concern. However, they all are protected under the “Migratory Bird Treaty Act” of 1918. The “Migratory Bird Treaty Act” although old, has been amended and updated many times and is still strictly enforced. No systematic surveys have been conducted on the LRA for these species, but records of sightings and nest site locations are maintained.

Nesting habitat for these species ranges from ground nesting species to species that prefer to nest on rock outcrops and cliffs. Nest structures range from ground burrows dug by badgers and ground squirrels to natural cliff ledges and stick-built nests. Many of the larger cliffs have been surveyed and many nest sites are known. The smaller members of this group prey on insects and small mammals. The larger members prey on moderate sized birds, mammals and reptiles. The major impacts to this group include disturbance or damage to nests and nesting structures as well as disturbances near the nest site during the nesting season. Site-specific habitat surveys and inventories are required as part of the NEPA process for all construction and range improvement projects that may affect listed or sensitive species. Nesting seasons vary by species, but most nesting activity generally occurs between February 1 and August 31.

**Greater sage-grouse:** The western subspecies of the sage grouse was federally listed as a candidate species (Category 2) by the USFWS until candidates were recently dropped from the list. The sage grouse throughout its range is of high public interest and is designated by BLM as a special status species and USFWS species of concern. The greater sage-grouse is currently under consideration for listing as either a threatened or endangered species.

Sage grouse populations have exhibited long-term declines throughout North America, declining by 33 percent over the past 30–40 years. The species has disappeared in five states (Arizona, New Mexico, Oklahoma, Kansas, and Nebraska) and one province (British Columbia) and is at risk in six other states (Washington, California, Utah, Colorado, North Dakota, and South Dakota) and two provinces (Alberta, Saskatchewan). Even in states where the species is considered to be secure (Oregon, Nevada, Idaho, Wyoming, and Montana), long-term population declines have averaged 30 percent (Connelly and Braun 1997; Crawford and Lutz 1985). Sage grouse population estimates for Lake County are not available at this time. However, the BLM in cooperation with the

ODFW, has conducted limited nonsystematic lek inventories for greater sage-grouse on the resource area since 1977 and the general trend in decline is indicative of declines observed throughout the west.

The Western States Association of Fish and Wildlife Agency’s Sage and Columbian Sharp-tailed Grouse Technical Committee has published guidelines for the maintenance of greater sage-grouse habitats (Braun et al. 1977). The Association has directed the technical committee to revise those guidelines and it is likely that the habitat management guidelines portion of that document will be largely adopted by the Bureau into a new version of the 1974 BLM Technical Note, “Habitat Requirements and Management Recommendations for Sage Grouse.”

Oregon BLM is committed to the development and implementation of a “Sage Grouse/Sagebrush-Steppe Conservation Assessment and Strategy Plan” that may focus on greater sage-grouse as an icon, but is dedicated to all of the shrub-steppe obligate species that have been the focus of the ICBEMP effort. This plan in essence will step-down the results of the ICBEMP to application at the field level.

In Lake County, greater sage-grouse depend on sagebrush-grassland communities. Existing habitat is displayed on Map W-1. ODFW has completed lek surveys (that began in 1994) following a systematic, valid sampling protocol in order to be able to estimate greater sage-grouse populations within LRA. Sage grouse are most frequently found in sagebrush covered flatlands or gently rolling hills. Free water is also a component of greater sage-grouse habitat, but they do not require it for their daily survival. Water is used when available from late spring through late fall, and greater sage-grouse attain their highest population densities in areas that contain abundant and well distributed surface water. Sage grouse rely on snow and ice during the winter months and moisture from succulent plants when available.

Sage grouse populations that are migratory may travel great distances seasonally. Summer and winter ranges may be as far as 50 or more miles apart. If deep snow covers spring and summer ranges, the birds may migrate to lower elevations to find food and cover. Sage grouse may nest and raise their broods in sage-covered mountain valleys at high elevations. A variety of sagebrush stand conditions are necessary for good grouse habitat. In general, good habitat should contain openings less than 300 yards in circumference, some dense stands, and about equal amounts of tall and short sagebrush plants. There are three habitat types that

greater sage-grouse use throughout the year: breeding habitat, brood-rearing habitat, and wintering habitat.

Lek sites or greater sage-grouse strutting and mating grounds, are usually small open areas, from .01 to 10 acres, with low, sparse sagebrush or are denuded of vegetation. Grassy swales, natural and irrigated meadows where grass has been removed, burned areas, cultivated fields adjacent to sagebrush-grass rangelands, and dry lakebeds are often used as leks.

Hens generally nest in short sagebrush of medium density (Call 1974). Optimum greater sage-grouse nesting habitat consists of the following characteristics: sagebrush stands which contain plants 16 to 32 inches in height with a canopy cover which ranges from 15 percent to 25 percent and an herbaceous understory of at least 15 percent cover that is at least 7 inches tall. It is recommended that these conditions should be found on 80 percent of the breeding habitat for any given population of greater sage-grouse (Klebenow 1969; Wallestad and Pyrah 1974). Some studies have shown that nonmigratory hens nest within 1.5 miles of the lek site. However, some migratory birds equipped with radio collars tracked by radio-telemetry have been seen nesting 10 to 30 miles from the lek (Crawford 1998).

Early brood rearing generally occurs relatively close to nest sites, but movements of individual broods may be highly variable (Connelly 1982; Gates 1983). Sage grouse chick diets include forbs and invertebrates (Drut et al.). Insects, especially ants and beetles, are an important component of early brood-rearing habitat. Brood habitats that provide a wide diversity of plant species tend to provide an equivalent diversity of insects which are important chick foods. As sagebrush habitats dry up and herbaceous plants mature, hens move their broods to more moist sites during June and July where more succulent vegetation is available (Klebenow 1969; Gill 1965; Connelly et al. 1988). Optimum brood-rearing habitat consists of sagebrush stands that are 16 to 32 inches tall with a canopy cover of 10 percent to 25 percent and an herbaceous understory of 20 percent (10 percent grasses and 10 percent forbs). This type of habitat should be found on at least 40 percent of the area that is considered brood habitat.

As fall progresses toward winter, greater sage-grouse start to move toward their winter ranges and their diet shifts to primarily sagebrush leaves and buds (Connelly et al. 1988). Timing of movement depends on weather severity and snow depth. Sage grouse winter habitats are relatively similar throughout most of the species range. As their winter diet consists almost exclusively of sagebrush, winter habitats must provide sagebrush

that is available above the level of the snow. Sage grouse tend to select areas of both high canopy cover and taller Wyoming big sagebrush and will select the plants which have the highest protein content.

It is critical that sagebrush be exposed at least 10 to 12 inches above snow level (Hupp and Braun 1989). This provides both food and cover for wintering greater sage-grouse. In situations where snow covers the sagebrush the birds will move to areas where sagebrush is exposed. Sagebrush of varying heights should be found on 80 percent of the wintering range of a given greater sage-grouse population to guarantee that they will find exposed sagebrush for winter survival.

The greatest negative impact on greater sage-grouse is the destruction or adverse modification of their habitat. At the present, greater sage-grouse occupy most of their historic range in reduced numbers, but have disappeared from areas on the periphery of former ranges where extensive areas of sagebrush have been removed. During the past 40 years, many sagebrush covered valleys and foothill ranges have been sprayed, plowed, chained, burned, disked, or cut in an attempt to convert these ranges to grasslands. Eradication of large tracts of sagebrush has occurred historically in Lake County, but has recently slowed.

Research data are scant with respect to the impact of fire and plant succession on greater sage-grouse. Recent research conducted on a pair of burned and unburned plots within Wyoming sagebrush types in Idaho revealed that a sub-population of greater sage-grouse was reduced within the burn area compared to the control site (IDFW 1994). Although both the control and burned areas showed a general decline in the greater sage-grouse population during the research period, the reduction was greater in the treatment area (83 percent) than the control area (55 percent), and the difference was associated with losses in nesting cover. Sage grouse select nest sites near the largest sagebrush plants with a good herbaceous understory, which is precisely where wildfire or prescribed fire tends to travel.

This is a substantial finding worthy of incorporation into a greater sage-grouse conservation strategy in view of documented population declines and the inclination of BLM to want to pursue prescribed fire as an ecosystem management tool. Shrub cover fragmentation throughout the range of the greater sage-grouse makes this an issue of current importance that may not have been quite as significant in the past. Clearly, the conditions and values of rangeland habitats in the Pacific Northwest continue to change due to weeds,

fire, and other influences. This indicates a need for BLM to adjust management strategies accordingly.

Anecdotal accounts have often associated greater sage-grouse with burn areas and mosaics of grass/forb and grass/forb/shrub habitats. The concept of habitat edge and the desirability of mosaics has been substantially ingrained and reinforced within the culture of BLM management goals for a long time. However, the analysis of the data from Idaho indicated that at least in the Wyoming sagebrush types where greater sage-grouse nest, the mosaic of habitat that results from burning diminishes their productivity and the consequences of fire cannot be viewed as positive. In addition, Connelley reported the following:

“If Klebenow (1972) and Gates (1983) and Sime (1991) were correct, greater sage-grouse use of the burned area should have been greater than that of the unburned area. However, we found no differences in use of the treatment area compared to the control area. These results suggest that fire does not improve brood rearing habitat in relatively low precipitation zones dominated by Wyoming big sagebrush. Therefore, we caution against using this argument as justification for burning in this type of habitat.”

There is some dispute regarding prescribed fire and its beneficial or adverse effects. Oregon BLM acknowledges that there are differences in opinion. However, given this debate and the ongoing threats of further habitat losses to wildfire, it will be prudent to avoid prescribed burning in Wyoming sagebrush types because it is likely to exacerbate population viability problems for the species. Moreover, these two recommendations do not prevent the use of prescribed fire. They simply redirect where it is appropriate to do so without jeopardizing an important sagebrush steppe species that may be listed as a threatened or endangered species.

Other factors possibly impacting greater sage-grouse habitat and populations include irrigation projects and degradation of riparian areas. The creation of reservoirs and diversion of water for irrigation may eliminate important, high-quality brooding habitat. Conversely, some of these land uses probably benefit greater sage-grouse. Openings in large sagebrush stands can create feeding and brooding areas that may benefit greater sage-grouse if water is nearby. The creation of meadows by seeding and water diversion may add to food supplies, and reservoirs and ponds may provide standing water. In addition, practices that removed stands of large decadent sagebrush have permitted new, young sagebrush stands to develop and provided openings for grasses and forbs to establish.

**Columbian sharp-tail grouse:** There was one collection of Columbian sharp-tailed grouse at Beatys Butte in the early 1900s; however, no sharp-tailed grouse have been documented since that time. ODFW has no plans to reintroduce the species in Lake or Harney Counties due to lack of adequate habitat.

**Waterfowl and shorebirds:** Most of the common puddle duck species are known to migrate spring and fall throughout the planning area and many successfully nest in suitable wetland habitats throughout the resource area. Wood ducks, Eurasian wigeon, ring-necked ducks, tundra swans, trumpeter swans, snow geese, and canvasbacks have occasionally been seen in the planning area; however, no nesting has been observed. The most common nesting ducks in the resource area are gadwalls, northern shovelers, teal, mallards, pintails, American wigeon, American coots, and redheads.

Early nesting species such as pintails and mallards rely on residual cover for nest concealment until the current year's growth is high enough. Without this old growth, an area is not used or nesting success is greatly reduced. Livestock grazing that reduces or eliminates this residual cover is detrimental to these two species and can provide negative impacts. Livestock grazing during the nesting season creates additional conflicts by removing current year's growth around nests, which affects all waterfowl species, creates disturbance to nesting birds, and can cause trampling impacts.

The long-billed curlew is not federally listed. However, it is considered as an Oregon State vulnerable species. Known nesting populations exist at Antelope Flat, Greaser Lake, Horsehead Lake, Hawks Valley seeding, Guano Lake, and probably several other locations.

Western snowy plover is a USFWS species of concern. It is listed by the State of Oregon as threatened. According to the Oregon Natural Heritage Program (ONHP) database, this species is critically imperiled due to extreme rarity, imminent threats, or biological factors. The only known nesting habitat for western snowy plovers within the planning area is Abert and Summer Lakes.

The greater sandhill crane has no special Federal status, but is considered an Oregon State vulnerable species by the ONHP database. It is a resident that migrates out of the area during the winter. The major nesting areas in Lake County are Summer Lake, Paulina Marsh, Chewaucan Marsh, and Camas Valley. Many small isolated nesting populations have been

seen in favorable areas throughout the resource area except in the norther portion, which has extensive sagebrush uplands and few irrigated meadows (USFWS 1978). The lesser sandhill crane is a common spring/fall migrant throughout the resource area.

The white-faced ibis, yellow rail, red-necked grebe, black tern, and western least bittern are not federally listed. However, they are listed by ONHP as vulnerable and by USFSW as species of concern. The ONHP has ranked these bird species (based on worldwide distribution of the species level) to be demonstrably secure, though frequently rare in parts of their range, especially on the periphery. They are ranked in Oregon to be rare or with a very restricted range or otherwise vulnerable. These species have breeding status in Oregon. They are known to nest in Warner Valley and other suitable habitats in Lake County. Studies or monitoring of the species status and the amount of suitable habitat has not been conducted. At this time, it cannot be determined whether the habitat available is essential for species survival or maintenance of species diversity.

**Neotropical migrant bird species:** Numerous neotropical migrant bird species are found within the planning area; however, no systematic nesting inventories have been conducted. Olive-sided flycatchers, yellow-billed cuckoos, purple martins, black-head woodpeckers, white-headed woodpeckers, and northern and loggerhead shrikes have been documented on the resource area, but no nest sites have been located. Lewis' woodpeckers nest on the forest fringe, but their abundance and distribution is unknown.

## Bats

**Pale western big-eared bat:** The pale western big-eared bat is a BLM sensitive species that occurs in a wide variation of habitat types. Areas commonly utilized within the planning area are desert scrub communities and pine forests. Perkins stated that caves and cave-like structures are a critical component of this bat's habitat requirements, both as hibernaculum in the winter and as roosts for summer nursery colonies. The species also uses abandoned mine tunnels and buildings. Other special habitat features required by the pale western big-eared bat include wet meadows and riparian areas to forage for aerial insects and arthropods. Habitats free from human disturbance are apparently required by this species.

Bats may use mines in several ways. The most obvious use is as a daytime resting place (roost) for these nocturnally active animals. This occurs during the

warm part of the year when they are most active. Another use during this time of year is as a temporary resting place at night between foraging bouts. A given mine may be used for one or the other or both of these activities. Such use may vary seasonally. Sometimes, an infrequently used summer roosting site will be attractive to bats in the fall, especially at night, when they congregate for breeding. Another use of mines is as hibernaculum for dormant bats during the winter. Most species have specific habitat requirements for such use.

Numerous bat surveys have been conducted in the LRA. However, these have been limited to historical sites, mining exploration areas, and museum collection sites. A mist netting survey conducted by Cross (1976) revealed 10 species of bats found on BLM-administered lands: pale western big-eared, big brown, silver-haired, pallid, California myotis, little brown myotis, long-eared myotis, small-footed myotis, long-legged myotis, and the Yuma myotis (the last four species listed are USFWS species of concern). Perkins (1986) surveyed historical hibernacula and roost site locations within the LRA and found some use in the Derrick Cave and the Squaw Butte Lava Beds. However, he found only one or two pale western big-eared bats in each of the five caves he surveyed.

Perkins (1986) pointed out that cave habitats in Oregon have not been managed specifically as habitat for bats and are subject to increasing human disturbance, which could result in a decline of available habitat for bats. Inventories to establish a complete distribution of the pale western big-eared and other bat species on LRA lands are needed before habitat protection can be provided. No LRA-administered lands have been designated as management areas for this sensitive bat species. All abandoned mines on the resource area are surveyed for bat use before they are permanently closed. Hazardous mines with significant bat use and those containing sensitive species of bats will be properly gated to protect the public and allow free movement of bats.

## Big Game Mammals

**Rocky Mountain elk:** Because the Rocky Mountain elk is a game species in Oregon, there is a high degree of public interest relative to the population levels and habitat condition. The elk is also valued by the public for wildlife viewing.

Based on ODFW estimates, the present population of Rocky Mountain elk on the LRA and adjacent lands administered by the USFS are expanding toward the

management objectives or goals of ODFW's 1992 "Oregon's Elk Management Plan." ODFW is managing the area for a herd composition of 20 bulls/100 cows and is already maintaining a 3-year average of 10 bulls/100 cows. The management objectives for the area call for 3,000 elk in the South Central Zone (Silver Lake, Interstate Unit, and includes the Sprague and Klamath Falls Units outside the zone administered by the LRA), 500 elk in the Warner Unit, 1,000 elk in the High Desert Zone (Beatys Butte, Wagontire, and Juniper Units and includes the Owyhee, Whitehorse, Steen's Mountain Units, and Malheur Units that fall outside lands administered by the LRA), and 1,600 elk in the Paulina/East Fort Rock Unit. The LRA big game populations are managed by ODFW to emphasize mule deer. Elk are managed as a secondary species to provide numbers proposed in their elk management plan designed to minimize competition with mule deer. Approximately 800,000 acres of identified yearlong elk habitat occur in the LRA at this time.

Elk populations respond to the quantity and quality of forage and cover and the distribution of these habitats (Brown 1985). Forage areas are defined as vegetated areas with less than 60 percent combined canopy closure of trees and tall shrubs. This includes grass-forb, shrub, and open sapling phases of the early seral stages.

Three types of cover are important to elk: hiding, thermal, and optimal thermal cover. Hiding cover includes any vegetation capable of hiding 90 percent of a standing elk at 200 feet or less. All seral stages except the early seral stage meet hiding cover needs. Thermal cover exists in forest stands that are at least 40 feet in height with tree canopy cover of at least 70 percent. Late, mature, and old growth seral stages qualify as thermal cover. Optimal thermal cover is provided by forest stands with dominant trees averaging 21 inches in diameter at breast height (dbh) or greater and 70 percent or greater crown closure. Such stands have four vegetation layers and an overstory canopy which can intercept snow.

Winter range is an important consideration in managing elk populations (Map W-2). During winter, elk use south-facing slopes and valley bottoms because of warmer temperatures, reduced snow depths, and available forage. During periods of hot weather in the summer, north-facing slopes and high elevation western juniper/shrub sites provide important thermal cover.

The major factors affecting elk use of an area are the interspersed of forage and cover areas in time and space, their relative quality, and the effects of human

disturbance from motorized vehicles (Brown 1985). Timber harvest and associated activities, such as road construction, can have the greatest impact. Major impacts on elk habitat may include reduction of optimal thermal cover, creation of large (50+ acres) foraging areas (which receive less use by elk because of greater distance to cover), human disturbance/harassment and poaching, commercial thinning of shelterwood, and firewood cutting that produce less forage than clearcuts while reducing thermal cover.

On the BLM-administered lands in the LRA, habitat is primarily winter range. Summer and transitional range is on USFS-administered lands; however, in the northern portion of the resource area, elk utilize BLM-administered lands year-round. Because little is known about movement and use patterns of this expanding elk population, no emphasis has been placed on habitat monitoring and inventory by the BLM.

Elk are endemic to Lake County and have been naturally expanding in numbers since the mid-1970s. Most of the elk found on BLM lands are a result of herds expanding into new habitat from other areas. In cooperation with the BLM and the USFS, the ODFW began a telemetry study in 1988 to monitor elk in southcentral Oregon to determine migration routes, winter and summer ranges, a rough population estimate, and identify use areas so that standard trend information can be gathered. Some local elk were trapped and collared and some were trapped in north-east Oregon and collared and released on or near BLM lands.

Because of the recent expansion of elk into the planning area, there have been no management activities in relation to elk or their habitat, except for the recent telemetry study in cooperation with ODFW.

**Mule deer:** Because the mule deer is a game mammal in Oregon, the public has a high level of interest in this species. In addition to interest in hunting, the public also values opportunities to view deer. However, in some suburban and agricultural areas, the species does become a pest, as it feeds in alfalfa fields, home gardens, and browses residential shrubbery. Mule deer are one of the most numerous big game species in the planning area.

ODFW's 1990 "Mule Deer Plan" set management objectives for the deer units within the resource area to manage for post-season buck ratios of 15 to 25 bucks per 100 does and less crowded hunting conditions. The management objectives for the deer units within the resource area are as follows: Fort Rock, 11,200; Silver

Lake, 10,300; Interstate, 14,800; Warner, 5,500; Wagontire, 1,400; Beaty Butte, 2,300; Juniper Unit, 2,300; and South Paulina Unit, 11,000. Four of the units are at management objective and the others are just slightly below. Production has been good in two of the units and limited antlerless hunts have been offered in the last few years. Approximately 1,000,000 acres of important deer winter range exists in the LRA.

Adequate food, water, and cover are essential to the survival of deer. Where food, cover, and water are close together, the range of deer is small. Home ranges of resident mule deer can be large. If snow conditions make higher elevations unsuitable, deer will move to suitable range in lower elevations. In general, higher elevations are used as summer ranges and areas below 4,500 feet are considered winter range. Seasonal movements and routes can be critical to maintaining migratory habitat.

The value of timberland for deer is proportional to the degree that it is broken and interspersed with openings. Deer numbers on forested lands are usually highest where openings that support low-growing palatable shrubs and forbs are scattered through the forest. Some of these openings may be natural meadows, marshes, or areas with soils that favor grasses and shrubs rather than trees. Other openings may be created by timber harvest and wildfire.

Deer range in LRA from 4,200 feet at Summer Lake to over 7,900 feet at Beaty Butte. Mule deer range is divided into summer, winter, and transitional seasonal ranges.

The winter range is primarily juniper woodland and sagebrush communities with interspersed grasses (Map W-2). Browse is the major component of the winter diet, primarily antelope bitterbrush, big sagebrush, curl-leaf mountain mahogany, and western juniper. Summer ranges of the Interstate herd are generally associated with coniferous forest/shrub communities. Transition range can be divided into spring and fall. The vegetation of the spring transition range is similar to winter range—sagebrush and juniper woodland. Grasses and forbs are important on this range. Fall transition ranges are vegetatively similar to summer ranges—coniferous forest/shrub communities. Deer tend to remain at the highest possible elevations until forced onto winter concentration areas by snowfall.

Harassment of deer by humans using motorized vehicles during stress situations, cold winters, and extreme heat has an adverse impact but is difficult to quantify. The Lakeview BLM, USFS, Oregon State

Patrol, and ODFW have been participating in a cooperative road closure in the Cabin Lake/Silver Lake Winter Range since 1975 to protect wintering deer from harassment and to protect wildlife habitat by controlling vehicle use. The specific goals of the road closure are to increase deer survival in winter, improve physical condition and productivity, protect and improve rangeland, and reduce harassment and poaching. The road closure is in effect each year from December 1 through March 31 and has been successful in reducing, but not entirely eliminating harassment and poaching.

Habitat conditions on the winter ranges within the resource area vary considerably and are site specific. It is generally recognized by wildlife biologists and range managers that it is extremely difficult to precisely measure habitat condition and productivity and even more difficult to relate these measures to herd parameters (Carpenter and Wallmo 1981). Winter deer habitat in the Warner Mountains is generally improving under current management practices. The Fort Rock/Silver Lake winter range has been intensely grazed by domestic livestock and browsed heavily by deer in the past. Habitat conditions are fair to poor for this area as evidenced by browse (antelope bitterbrush and curl-leaf mountain mahogany) transects initiated in 1964. Little improvement is evident since 1964. Browse plants are old (40 to 80 years old), decaying or dead, and produce very little viable seed. There is very little reproduction in the stands in the form of seedling establishment and many of the browse plants are growing out of the reach of deer. The stands are still producing some browse for wintering deer and the decaying and dead plants are providing valuable thermal and hiding cover.

The “Warner Lakes and High Desert Management Framework Plans” recommended management techniques for:

- Rejuvenating decadent brushfields by burning, scarification, and top-pruning or crushing;
- Acquiring private lands within the deer winter ranges through land exchange;
- Reestablishing perennial grasses and forb communities on deer winter ranges that have been invaded by annuals and weed species, such as cheatgrass and medusahead;
- Designing and implementing grazing management systems on those grazing allotments containing identified deer winter range that will meet the physiological needs of preferred deer forage (forbs,

grasses, and shrubs);

- Allocating forage for deer on the deer winter ranges;
- Cooperating in cooperative road closures when problems such as wildlife harassment occur;
- Minimizing the effect of cover removal wherever possible to minimize adverse effects to overwintering deer;
- Protecting identified wet meadows by fencing them from overuse by livestock and OHV's;
- Maintaining a vegetative community to provide escape cover along perennial water courses on winter and summer ranges; and
- Locating and constructing roads away from meadows when possible.

Current management on the resource area has focused on the following:

- Improving and maintaining transition and winter range;
- Developing water resources, primarily spring development and improvement and installation of guzzlers;
- Modifying grazing systems to reduce competition with domestic livestock for winter browse and early green-up grasses;
- Fencing riparian areas;
- Seasonal road closures; and
- Prescribed burning and mechanical treatment.

**Pronghorn:** Pronghorn, which occupy a vast area in the western United States, are also abundant in the LRA. On the LRA, pronghorn habitat consists primarily of shrub-steppe vegetative types. The planning area contains winter range for pronghorn as well as summer and yearlong habitats. Map W-2 shows the location of pronghorn winter habitat. Water is sparsely distributed and is present primarily in widely-scattered springs and waterholes.

Pronghorn are a very common big game species within the resource area. The diet consists primarily of forbs

and grasses during the spring and early summer. The rest of the year, pronghorn are primarily dependant upon sagebrush and antelope bitterbrush. Seasonal movements are controlled primarily by the snow depth, with deep snows hindering movement and covering the short brush.

There are about 1,000,000 acres of pronghorn winter habitat identified on the LRA. Predation of kids by coyotes appears to be a primary factor limiting pronghorn populations in the planning area. Pronghorn populations fluctuate depending on environmental conditions and range from 3,000–7,000 animals within the resource area.

**California bighorn sheep:** California bighorn sheep occupy sagebrush-grassland on the resource area. Habitat is characterized as yearlong, and totals about 500,000 acres. Escape areas, lambing areas, thermal protection, rutting areas, and foraging areas are provided by the rugged mountains, canyons, and escarpments. Most bighorn sheep water in this area is supplied by big game guzzlers, natural seeps and springs, and waterholes.

There are approximately 500 to 800 bighorn sheep currently occupying the LRA. Map W-2 shows bighorn sheep habitat in the planning area. Bighorn sheep are endemic to Lake County and have been expanding since the mid-1970s. Lake County contains historically occupied bighorn sheep habitat; populations on BLM-administered lands have been reestablished from transplants from Hart Mountain National Antelope Refuge over the past several years.

**Carnivores:** Many species of carnivores are known or suspected to occur on the resource area. Coyote, bobcat, and mountain lion occur on every part of the resource area and are very common. Kit fox, a State threatened species, is also known to occur on the resource area, but population and distribution data are unknown. Three other carnivores of concern may occur in LRA. These include lynx (a Federal threatened species), wolverine (a State threatened species), and fisher (a Bureau sensitive species). Although these three species could exist in the LRA, they are primarily forest-dwelling species and do not typically occur in open desert shrub habitats. It is suspected that they may occur as a casual visitors to LRA, but little or no permanent habitat exists within the resource area boundary.

**Other mammal species:** Pygmy rabbits occur within dense stands of big sagebrush in deep, loose soils within the resource area; however, distribution and



abundance is unknown for the species due to the lack of systematic surveys. The species is a USFWS species of concern, so surveys are required for all range improvement projects, including prescribed fire.

Limited small mammal inventories conducted by ODFW documented both white- and black-tailed jackrabbits, cottontail rabbits, deer mice, kangaroo mice, kangaroo rats, northern grasshopper mice, Townsend's ground squirrels, least chipmunks, and sagebrush voles, within the planning area.

**Reptiles:** Limited reptile surveys have been conducted on the resource area; however, northern sagebrush lizard, western fence lizard, desert horned lizard, short-horned lizard, western rattlesnake, garter snake, and gopher snake appear to be common in appropriate habitat types. Side-blotched lizard, long-nosed leopard lizard, western skink, and striped whipsnake are known to occur on the district, but limited data is available on distribution and abundance of these species.

# Appendix I — Areas of Critical Environmental Concern

## Introduction

This appendix explains ACEC criteria as described in 43 CFR 16 and describes the existing and proposed ACEC's and their relevant and important values. The appendix also contains a map of each existing and potential ACEC showing proposed boundaries and road designations under each alternative.

BLM regulations (43 CFR part 1610) define an ACEC as an area "within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards."

ACEC's differ from other special management designations such as WSA's in that the designation, by itself, does not automatically prohibit or restrict other uses in the area. The one exception is that a mining plan of operation is required for any proposed mining activity within an ACEC. The ACEC designation is an administrative designation and is accomplished through the land use planning process. It is unique to the BLM in that no other agency uses this form of designation. The intent of Congress in mandating the designation of ACEC's through FLPMA was to give priority to the designation and protection of areas containing truly unique and significant resource values.

## Research Natural Areas

According to Oregon Natural Heritage Program (ONHP) (1993, 1998) the purpose for research natural areas (RNA's) are: "to preserve examples of all significant natural ecosystems for comparison with those influenced by man; to provide educational and research areas for ecological and environmental studies; and to preserve gene pools of typical and endangered plants and animals." All BLM RNA's are designated and managed as ACEC's (Oregon Manual Supplement 1623.35 for RNA's only). Therefore, all RNA's must meet both the ACEC criteria, as applied in writing by an interdisciplinary team and approved by the field manager, as well as the need for a RNA cell as defined

in the ONHP data base. The ACEC can be larger than the RNA, to encompass other values, which may not be needed for the RNA. RNA management plans are usually more restrictive than ACEC plans.

RNA cells determined by the ONHP are the basic units that are represented in a natural area system. These cells can be an ecosystem, community, habitat, or organism. Cells are artificial constructs used by the ONHP to inventory, classify, and evaluate natural areas in Oregon. Cells contain one or more ecosystem elements. Typically, a RNA aggregates several cells that need representation. The ONHP was created by the Oregon Natural Heritage Advisory Council to the State Land Board in 1993. They are the State counterpart of the Federal program. Of the 16 existing and proposed ACEC's, 13 have ONHP cells within their areas. Within the existing and proposed ACEC's, 11 have existing or proposed RNA's.

## Requirements for Designation

To be designated as an ACEC, an area must meet the relevance and importance criteria listed in BLM 1613 Manual (BLM 1988) and require special management. Specific evaluation questions for each of these three elements are listed below.

### Relevance Criteria

Does the area contain one or more of the following?

- A significant historic, cultural, or scenic value;
- a fish and wildlife resource;
- a natural process or system; or
- a natural hazard?

### Importance Criteria

Does the value, resource, system, process, or hazard described above have substantial significance or value? Does it meet one or more of the following criteria?

- Is it more than locally significant, especially compared to similar resources, systems, processes, or hazards within the region or Nation;
- does it have qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary,

unique, endangered, threatened, or vulnerable to adverse change;

- has it been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA;
- does it have qualities that warrant highlighting to satisfy public or management concerns about safety and public welfare; or
- does it pose a significant threat to human life and safety or property?

### Need for Special Management

Does the value, resource, system, process, or hazard require special management to protect (or appropriately manage) the relevant/important value(s)? Special management is defined as or is needed when:

- 1) Current management activities are not sufficient to protect a given relevant/important resource value and a change in management is needed that is not consistent with the existing land use plan(s).
- 2) The needed management action is considered unusual or outside of the normal range of management practices typically used.
- 3) The change in management is difficult to implement without ACEC designation.

## Evaluation Process

Regardless of who nominates an area as a potential ACEC, it is the BLM who is responsible for evaluating the area to determine if it meets the relevance/importance criteria and requires special management. The LRA has prepared a report entitled "Areas of Critical Environmental Concern Nomination Analysis Report" (2000) which contains the analysis of each area nominated to be an ACEC. This report is available from the resource area office or on-line at [www.or.blm.gov/lakeview/planning](http://www.or.blm.gov/lakeview/planning).

## ACEC Descriptions

### Existing Areas of Critical Environmental Concern

#### *Devils Garden ACEC*

*Description and values:* An ACEC totaling 28,241 acres was designated in 1984. The boundary of the ACEC is the same as that of the Devils Garden WSA. The ACEC is located approximately 8 miles north of the town of Fort Rock (see Maps SMA-1 and -5). This extensive lava flow also contains spatter cones, lava tubes, and cinder cones. Devils Garden lies within the transition zone between forest and high desert, with plant species from both areas represented. Ponderosa pine, juniper, and quaking aspen are common in the northern portion and grade into bitterbrush, sagebrush, and western wheatgrass to the south. Ferns and mosses are able to exist in this desert environment by growing in the moist microclimates in the large cracks and crevices of the lava. The Devils Garden ACEC is also used by educational groups on a regular basis.

The area has high potential for salable minerals, particularly slab lava. This resource would likely be developed if the area is not designated wilderness. The ACEC is also in an area of moderate geothermal potential. Because of the WSA status, the area is closed to mineral leasing, but should the area not be designated wilderness, it is not likely that the geothermal potential would be developed.

#### *Lake Abert ACEC*

*Description and values:* In 1996, 50,117 acres of public land administered by BLM around Lake Abert was designated as an ACEC. The ACEC includes the BLM-administered portions of the lake, most of the surrounding archeological sites and National Historic Register District, part of the Abert Rim WSA, and the playa on the north end of the lake. The boundary of the ACEC is established at the top of Abert Rim on the east, the edge of the boundary of rights-of-way for an existing powerline on the northeast, an existing county road and private property on the northwest, a new 3.5-mile riparian exclosure fence on the west and legal property lines on the southwest (Maps SMA-1 and -6).

Lake Abert and its immediate surroundings met the relevance and importance criteria for the presence of prehistoric cultural values, scenic values, wildlife (both populations and habitat) resources, and natural processes (aquatic ecology). BLM also recognized that

these resources deserved special management. The natural hazards (landslides, rockslides, cliffs and potential for flash flooding) which are present in the area were found to meet the relevance criteria, but not the importance criteria (USDI-BLM 1993). Two unique ONHP geologic forms are designated under landforms produced by faulting:

- (58) Fault scarp, escarpments and cliffs
- (6) Graben: Abert Lake Basin

There is also an ONHP Basin and Range lacustrine cell:

- (46) Fault block lake

*Management goals from the existing Lake Abert ACEC management plan:*

- Maintain a viable, sustainable ecosystem within the lake and surrounding area (prevent changes that would cause significant, adverse effects on ecological values).
- Maintain or enhance economic conditions consistent with other listed goals and existing laws, regulations, and policies.
- Maintain or enhance existing resource values for future generations (i.e., do not exclude future options by current management actions).
- Continue current, traditional, and historic land and resource uses in the area.
- Maintain or enhance recreational opportunities and wilderness values.
- Maintain the present visual/aesthetic quality.
- Protect and/or interpret, where appropriate, existing cultural resource values, including protecting and respecting Native American traditional uses.
- Maintain or enhance habitat quality and quantity for native plant and animal species, including special status species (such that the latter do not become federally-listed; for example, extirpated desert allocarya population).
- Maintain or enhance public education and scientific research opportunities.
- Maintain exploration and development opportunities for leasable, salable, and locatable minerals to

provide needed mineral resources, consistent with other listed goals and existing laws, regulations, and policies

### ***Lost Forest/Sand Dunes/Fossil Lake ACEC***

*Description and values:* The Lost Forest/Sand Dunes/Fossil Lake ACEC/RNA is located in north Lake County approximately 20 miles east of the community of Christmas Valley. The existing ACEC/RNA is made up of the Lost Forest RNA and Instant Study Area, the Sand Dunes WSA, and the Fossil Lake paleontological area and totals 36,120 acres (see Maps SMA-1 and -8).

The Lost Forest (9,047 acres) was designated a RNA in 1972 and withdrawn from mineral entry. The Lost Forest consists of a disjunct stand of ponderosa pine occurring in a climate of lower rainfall than that normally associated with this vegetation community. The sand dunes, the sandy soils within the Lost Forest and Fossil lake area, and the associated vegetation represent a complex and unique ecosystem. Two ONHP Basin and Range plant cells are represented there:

- (1) Ponderosa pine, big sagebrush-bitterbrush community (isolated stand within steppe)
- (2) Ponderosa pine-western juniper, big sagebrush, needle-and-thread grass communities

There is also an ONHP unique geological feature for Aeolian landforms in the ACEC:

#### ***(57) Interior sand dunes***

The Sand Dunes WSA contains 16,495 acres and includes a small portion of the Lost Forest RNA and most of Fossil Lake. Most of the WSA consists of unstabilized sand dunes up to 60 feet high. Vegetation in the dunes is sparse and localized. The Lost Forest portion of the WSA contain sagebrush, juniper, and ponderosa pine. The Sand Dunes represent the largest inland moving sand dune system in the State and perhaps the Pacific Northwest (USDI-BLM 1989a). Researchers believe that this large sand dunes system and the resulting complex soil conditions contribute to the preservation of the Lost Forest. Due to the sand dunes and water retention in the soils, the pine forest survives in this low-rainfall area.

The ACEC/RNA has numerous cultural and paleontological sites, most of which are associated with Fossil Lake. Fossil Lake has been recognized as extremely important for the study of Pleistocene-age fossils. It is one of the few locales where prehistoric human inhabit-

ants can be associated with now extinct animals dating from 8,000 to 11,000 years ago.

The unique botanical, ecological, cultural, and paleontological resources of the area which are of more than local importance serve to meet the relevance and importance criteria for designating the area and ACEC. The scientific value of the area merits designation as a RNA.

*Existing management goals for Fossil Lake:*

The goals of management are to prevent further disturbances of the area and to preserve the scientific values for educational public enjoyment.

- Develop a public service plan for Fossil Lake to keep the public informed about the importance of the area.
- Reduce user conflicts and involve the local community in the management of the area and encourage scientific use of the area.
- Place interpretive signs at major access points leading to Fossil Lake, and place closure notices/warning signs.
- Complete a standard barbed wire fence around the area of the closure.

**Warner Wetlands ACEC**

*Description and values:* The Warner Wetlands ACEC covers 51,087 acres in the north half of Warner Valley. The area was designated in September 1989. Within the ACEC are nearly 19,000 acres of lakes, potholes, sloughs, marshes, and shorelines. Waterfowl and shorebirds by the tens and hundreds of thousands funnel through the area on their semiannual migration along the Pacific Flyway. The wetlands also provide summer nesting and year-round habitat for thousands of other birds.

The Warner Lakes are in a closed basin system with no outflow. Within this system the lakes routinely follow a filling cycle followed by a long period of drying through evaporation and absorption. Historic high levels occurred in 1983 and 1984 followed by a drying cycle through the early 1990s. This was followed by a wet cycle culminating in near historic highs in 1999.

The Warner Wetlands met the relevance and importance criteria in for designation as an ACEC in a

number of ways. It provides resting habitat for thousands of waterfowl and shorebirds each year. It also provides nesting and brood-rearing habitat for hundreds of pairs of waterfowl and shorebirds. Special status species inhabit the ACEC including bald eagles, seasonally; white faced ibis; snowy plover; and Warner sucker, a threatened or endangered species.

Archaeological research in the past by the University of Nevada–Reno has shown that the area has been occupied for at least 10,000 years. It contains numerous sites spread over a wide variety of ecosystems. Site types include rock art, lithic scatters, small temporary campsites, semi-permanent villages, burials, hunting blinds, stone walls and structures, and plant gathering and processing sites (BLM 1988).

One Bureau sensitive plant species, verrucose seapurslane (*Sesuvium verrucosum*) is found in the wetlands. The below ONHP cell for Basin and Range wetland and aquatic ecosystems is found in the pot-holes area, but there is no accompanying RNA:

(50) Low elevation alkaline pond with aquatic beds and marshy shore

There is also an ONHP unique geological feature for Pleistocene lake land forms in the ACEC:

(64) Sand dunes

*Management goals from the existing Warner Lakes ACEC management plan:*

This ACEC area is partitioned into three major areas for management: (1) core wetland, (2) grazed, and (3) meadows.

- For areas 1, 2, and 3: Emphasize the preservation and protection of unique wildlife, ecological, cultural, and geological values identified within the ACEC.
- For area 1: Improve wildlife resource values, eliminating all conflicting uses, demands, and allocations.
- For area 2: Provide for increased livestock forage production, while improving the composition, vigor, and density of the present range site plant communities.
- For area 3: Place primary emphasis on improving wildlife habitat condition or enhancement while providing opportunities for other uses.

## Proposed Areas of Critical Environmental Concern

### *Abert Rim Addition to Lake Abert ACEC*

*Description and values:* Approximately 18,000 acres is being proposed to be added to the existing Lake Abert ACEC. The area abuts the original ACEC boundary to the east and includes the area immediately from the top of Abert Rim up to 1 mile east (see Map SMA-7). The new area being proposed is to be included in the ACEC but not included in the Lake Abert Archeological District which is located at the base of the escarpment along Highway 395.

The portion of Abert Rim proposed to be added to the existing ACEC contains significant archaeological sites and several cultural plants and habitats. The area is considered by local Native Americans to be a traditional cultural property used for various purposes.

The proposed addition is within the Abert Rim WSA and managed under the wilderness IMP. The area is locally significant as it is part of the view landscape of the Chewaucan/Lake Abert Watershed and adds to the total picture of the escarpment. This panoramic view also has cultural significance to local Tribal people.

California bighorn sheep occur in the Abert Rim potential ACEC. This species is listed as a special status species within the Oregon BLM. It meets the relevance criteria for ACEC designation, but does not meet the importance criteria. However, habitats for California bighorn sheep occur in the Abert Rim potential ACEC. The quantity and quality of these habitats have declined over the last century due to expanding western juniper woodlands. This expansion of juniper woodland has decreased the availability of forage for bighorn sheep and has increased cover for large predators. Treatment and manipulation of some juniper within bighorn sheep range would increase the quantity and quality of bighorn sheep habitat.

This additional rim area meets the criteria for relevance and criteria for importance. The scenic and recreational values of this area, by itself, do not meet the relevance and importance criteria. However, when viewed as an extension of the existing ACEC, along with its WSA status, this area's recreational and scenic qualities add to the diversity and natural value of the original ACEC.

Visually, the area is an open bench which slopes away from the rim towards the east, and is characterized by grasslands and shrublands, with small pockets of juniper and quaking aspen. The area was originally inventoried as Visual Resource Management (VRM) Class IV due to its Scenic Quality C, background distance zone, and low visual sensitivity. However, since the area is within the Abert Rim WSA, it is managed as VRM Class I, where the management objective is to preserve the existing character of the landscape.

### *Black Hills Potential ACEC/RNA*

*Description and values:* The Black Hills are a group of low-lying hills located 4 miles south of the town of Christmas Valley (see Map SMA-11). Average elevation is 4,800 feet. The unique soils of the Black Hills support two BLM Bureau sensitive plants species: snowline cymopterus (*Cymopterus nivalis*) and Cusick's buckwheat (*Eriogonum cusickii*). Total area being proposed is 3,049 acres.

The vegetation of the Black Hills is juniper woodland (including some ancient junipers over 1,000 years old), some isolated shrubs, including sagebrush and gooseberry, and a low growing perennial plant community in the exposed ash soils. The Bureau sensitive plant species, Cusick's buckwheat, is the primary reason for the concerns for the plants of the area. A conservation agreement is being completed between the Burns and Lakeview BLM Districts and the USFWS for the protection of this plant species and habitat.

The Black Hills potential ACEC/RNA fills a proposed natural area cell element for the ONHP Basin and Range Ecosystems (Kagan, J. 1998, *personal communication*):

Exposed ash bed: annual and perennial forb community

The Black Hills area meets the relevance criteria as it is one of a suite of unusual ash plant communities found in southeastern Oregon and found to be important due to the presence of ecological diversity of junipers (many age classes), presence of disjunct ponderosa pine, and special status plant species.

The site meets the importance criteria due to the location of two Bureau sensitive plants and an ONHP cell within the proposed area. Cusick's buckwheat is limited to four small geographical areas in the Lakeview and Burns Districts of eastern Oregon.

The Black Hills site would make an important addition to the RNA system in Oregon as it contains not only a unique plant community and old growth juniper, but also contains populations of two rare plant species. Research has been conducted in the area for over 10 years.

The Black Hills show moderate potential for geothermal resources; however, exploration and development is not likely in the short term (10 years). The likelihood of exploration and development in the long term is not known at this time.

### ***Connley Hills Potential ACEC/RNA***

*Description and values:* The Connley Hills proposed ACEC/RNA is located south of Fort Rock, Oregon, and north of the Paulina Marsh in a low range of mountains called the Connley Hills (see Map SMA-12). Total area being proposed is 3,599 acres. Covering a variety of aspects and slopes and ranging in elevation from 4500 feet to 5500 feet, the hills support plant communities of western juniper, big sagebrush, and understory bunchgrasses.

The Connley Hills have significant cultural sites present which have provided important information on the prehistory of the region. While the area has not had a complete inventory, those sites which have presently been identified are significant. Some of the earliest dated cultural materials from the Great Basin have come from these sites, showing evidence of occupation from as much as 11,000 years ago (Aikens and Jenkins 1994). From a cultural resources standpoint, the age of and information provided by these sites meets the criteria for relevance and importance for the area.

The Connley Hills area fill four natural area cells in the ONHP:

- (4) Western juniper/big sagebrush/bluebunch wheatgrass
- (7) Western juniper/bluebunch wheatgrass
- (8) Western juniper/Idaho fescue
- (11) Wyoming big sagebrush/bluebunch wheatgrass

It is unusual for an RNA to fill four natural area elements that are as prominent in a physiographic province as those listed above. This is indicative of the importance of the Connley Hills to be designated as an RNA (Vander Schaff 1992). Eddleman (1999) states, “. . . the Connley Hills are important. Every aspect of rangeland health depends on reference points and standards that we must obtain from the best we have. The Connley Hills qualify as an area to use for such

reference points. From that standpoint alone, these hills have a high value for research . . . these areas increase in importance as source areas for native plant genetics needed in restoration efforts. Although this aspect is not readily apparent, it shows every indication of becoming of paramount importance for obtaining genetic materials at the Province level.”

This area meets the relevance criteria from a botanical standpoint as habitat essential for maintenance of species diversity and as representative of the botanical communities described by “Heritage Cell Designations in Basin and Range Ecosystems” (see above). The area meets the importance criteria because cell numbers 4, 8, and 11 plant communities are represented in Oregon only within the Connley Hills proposed ACEC/RNA.

This area meets requirements for a RNA with representation of four distinct ecosystems, is easily accessible for use by researchers and for educational reasons, would make an excellent outdoor laboratory for monitoring and research of native grasslands (auspiciously as seed sources). The area has also been used by Oregon State University for research for the past 10 years (Waichler 1998; Eddleman, L. 2002, *personal communication*).

The Connley Hills have moderate potential for geothermal resources, however the likelihood of activity in the short term is nil and unlikely in the long term. Locatable mineral potential is low, therefore the likelihood of any activity, both in the short term and long term is low. Potential for occurrence of salable minerals and oil and gas is low.

### ***Fish Creek Rim Potential ACEC/RNA***

*Description and values:* The Fish Creek Rim proposed ACEC and RNA is located on the rim which borders the western edge of the Warner Valley and the plateau to the west (see Map SMA-13). The area lies entirely within the Fish Creek Rim WSA. The elevations of the proposed ACEC/RNA range between 6,013 and 6,900 feet. The general vegetation is low sagebrush, a mosaic of tall sagebrush, scattered juniper, and isolated areas of quaking aspen, and other shrubs.

Fish Creek Rim has been a long standing RNA proposal that has gone through several designs. It was first proposed in 1982, then studied for 5 years. In 1987, boundaries were decided upon in a meeting with allotment users. In 1992, it was evaluated again by the ONHP (Vander Schaff 1992). ONHP recommended RNA status for the area. Total area being proposed is 8,725 acres.

The Fish Creek Rim area is known to contain high concentrations of cultural resource sites. Survey work of a systematic nature has been conducted in some areas while other areas have had site-specific project work surveys and occasional random surveys. However, this body of knowledge is sufficient to indicate the presence of many sites. The sites located here should be able to provide important data on upland site uses and patterns within the Northern Great Basin. Fish Creek Rim meets the criteria for relevance.

The Fish Creek Rim sites are of more than just local importance. They can provide information on the use of uplands which can be applied to study of sites in other portions of the Great Basin. Work by the University of Nevada-Reno has shown that they have potential for study. Fish Creek Rim meets the criteria for importance.

California bighorn sheep occur in the Fish Creek Rim potential ACEC. This species is listed as a special status species within the Oregon BLM. It meets the relevance criteria for ACEC designation, but does not meet the importance criteria. However, habitats for California bighorn sheep occur in the Fish Creek Rim potential ACEC. The quantity and quality of these habitats have declined over the last century due to expanding western juniper woodlands. This expansion of juniper woodland has decreased the availability of forage for bighorn sheep and has increased cover for large predators. Treatment and manipulation of some juniper within bighorn sheep range would increase the quantity and quality of bighorn sheep habitat.

Presence of known critical habitat for greater sage-grouse satisfies the criteria for relevance and importance designations as an ACEC.

The proposed ACEC area has been enlarged from what was originally proposed in order to include an area of dense concentration of archaeological sites and cultural plants.

Fish Creek Rim Proposed ACEC/RNA fills a relatively large number of natural area cell elements from the ONHP, Basin and Range Ecosystems (ONHP 1998). These include:

- (20) Big sagebrush-bitterbrush/Idaho fescue;
- (26) Low sagebrush/Idaho fescue scabland;
- (37) Mountain mahogany/mountain big sagebrush, and where possible, bitterbrush
- (41) Snowbrush and bittercherry shrub complex.

Also, present in the area are a number of cultural

geophytic plants utilized by Native Americans; examples are *Lomatium* and *Calochortus* species, onions, and bitterroot (*Lewisia rediviva*).

This area meets the relevance criteria as habitat essential for maintenance of species diversity and as representative of the botanical communities described by "Heritage Cell Designations in Basin and Range Ecosystems." The area meets the importance criteria as only numbers 20, 35, and 41 are only represented in Oregon on Fish Creek Rim. Number 26 is also found at the Sink Lakes proposed ACEC/RNA. Also present in the area are populations of Bureau sensitive plants which add to the importance criteria because of their limited range and fragility—dwarf lousewort and nodding melic grass.

This area has a high potential for a RNA. The terrestrial ecosystem cells are unique and in need of scientific study, as are the Bureau sensitive plant species. The limited distribution and the sensitive plant species gene pools afford good opportunities for research and education. The unusual presence of white fir (disjunct) on the site is an indicator of high biodiversity and uniqueness of the area.

The eastern portion of Fish Creek Rim is within Crump Geyser Known Geothermic Resource Area; therefore, it is high geothermal potential. In reality, geothermal exploitation would most likely occur to the east below the rim and steep slopes which are outside the proposed ACEC. The remainder of the proposed ACEC has moderate potential for geothermal and oil/gas; however the likelihood of exploration and development is nil, both in the short term and the long term. The potential for occurrence of other minerals is low.

### ***Foley Lake Potential ACEC/RNA***

*Description and values:* The Foley Lake area was first nominated as a RNA in 1982 by the ONHP group (665 acres); in 1999, about 2,300 acres were proposed by ONHP. This area is located east of the north end of Abert Rim along the west side of the Hogback Road. The site runs southwest from the Hogback Road to the top of Commodore Ridge, and on to the small basin which contains Foley Lake. Total area being proposed is 2,230 acres. The elevation varies between 4,800 feet and 5,160 feet (see Map SMA-14).

The Foley Lake area contains a high concentration of cultural resources. Research has been completed on some sites by the University of Nevada-Reno. This work has shown that the sites cover an estimated time period from 7,000 years ago to the present (Tippis



1998). These sites are important for the study of upland resource procurement and settlement patterns. The area meets both the relevance and importance criteria in regard to cultural resources.

Foley Lake is a seasonally dry playa that in the past has had use by wild horses, pronghorn, mountain sheep, and cattle. In wet years, this vernal pool usually dries out by August. The playa has had in the past a sizeable population of Columbia cress (*Rorippa columbiae*), a Bureau sensitive species. In 1997, the Lakeview District of the BLM signed a conservation agreement with the USFWS to protect and study the plant species. However, research was started as early as 1992 when an enclosure fence was constructed to enclose part of the playa (USFWS 1996). Columbia cress is on ONHP List 1 (threatened or endangered throughout its range).

The Foley Lake site fills a natural area cell need for the ONHP Basin and Range Ecosystem (ONHP 1998a):

(30) Black sagebrush/bunchgrass community complex

Foley Lake site meets the relevance criteria as habitat essential for maintenance of plant species diversity and as representative of the botanical cell need for the ONHP. The site also meets the importance criteria, especially with the presence of the Bureau sensitive plant species, Columbia cress.

Foley Lake meets the criteria for a RNA. Research has been ongoing for 5 years. It is a unique site for studying sagebrush biodiversity, as four distinctive sagebrush species grow in very close proximity. The site is also easy to access.

Foley Lake has moderate potential for geothermal resources and oil and gas. However, the likelihood of exploration, development, or extraction activity for any of these resources is low. The potential for occurrence of other minerals is low.

### ***Guano Creek/Sink Lakes Potential ACEC/RNA***

**Description and Values:** The Guano Creek/Sink Lakes proposed ACEC/RNA covers 4,936 acres and is located on a high treeless plateau north and west of Guano Creek, just south of Hart Mountain refuge, and northwest of the Shirk Ranch (Map SMA-16). It includes the canyon from the mouth of Guano Creek where it enters Guano Valley northwest to take in Bill Burr Lake. It is entirely within the boundary of the Guano Creek WSA (except Billy Burr Parcel). The elevation of the site varies between 5,300 and 5,980 feet. The

landscape is marked by small areas nearly void of vegetation because of the volcanic ash content of the soils.

The site represents five natural area cell needs from the ONHP for the Basin and Range Ecosystems. These cells are described as:

(15) Wyoming big sagebrush/needle-and-thread grass  
(28) Low sagebrush/Sandbergs bluegrass scabland  
(53) Low elevation vernal pool  
(64) Silver sagebrush/Great Basin wildrye  
(82) Low elevation riparian community dominated by willow

The Sink Lakes area contains three ephemeral lakes (including Billy Burr Lake) which are dry playas in the drought years and pools during wet years. The playas are all ringed by silver sagebrush and surrounded by uplands that are dominated by low sagebrush grasslands. The dry lakebeds differ in their vegetative composition and may be dominated by tansy-leaf evening primrose. The middle lake or playa is best characterized as a silver sagebrush/Nevada bluegrass community.

Of primary significance in the Guano Creek area is the occurrence of the high quality natural community that is characterized by big sagebrush/needle-and-thread grass. This community is uncommon in the Great Basin and is typically found in association with sandy soils.

Also found at the site are two Bureau sensitive plant species, grimy ivesia (*Ivesia rhypara* var. *rhypara*) and Crosby's buckwheat (*Eriogonum crosbyae*). A conservation agreement is being written by the BLM and the USFWS to help preserve and study these species for their entire populations. A conservation agreement already exists in Malheur County for those populations; however, the new agreement will contain all of the other known sites (in Oregon, Nevada, and California). Both Crosby's buckwheat and grimy ivesia are on the ONHP List 1 (threatened or endangered throughout its range) (ONHP 1998).

Documented cultural plants that occur in the area are camas and yampa; both are found along the entire corridor of Guano Creek from Hart Mountain to Shirk Ranch.

The proposed ACEC/RNA meets the relevance criteria by providing a high priority cell need for the ONHP Basin and Range Ecosystems: big sagebrush/needle-

and-thread grass community. The site meets the importance criteria with the two rare plant occurrences within the proposed ACEC/RNA. The grimy ivesia is the most northern population of this species and one of two locations in Oregon. The importance of the gene pool of those sensitive plants on a unique soil is also a very important consideration for the designation of the area.

This area also meets the relevance criteria as it protects a rare aquatic ONHP Basin and Range plant cell: the low elevation vernal pool, and partially fulfills the cell for low sagebrush/Sandbergs bluegrass scablands. The area meets the importance criteria because it is the only site for both cells in Oregon.

The area warrants designation as a RNA for research and educational studies because it protects a unique aquatic ecosystem and sagebrush scabland. There are few scabland studies in eastern Oregon, even though there are many acres of this plant community which are grazed by livestock. In removing livestock under the jurisdictional exchange between BLM and USFWS, there is a unique opportunity for baseline successional studies and studies of fluctuations in vegetation related solely to precipitation. Vernal lakes are common, but these circular sink lakes are located only on Steens basalt. The proximity to the Guano Creek riparian zone also contributes to the diversity of the site and the need for further research. Although situated in a remote area, Guano Creek meets the criteria for the designation of a RNA.

Guano Creek/Sink Lakes area shows moderate potential for the occurrence of oil and gas; however, the likelihood of activity in both the short term and long term is nil.

### ***Hawksie-Walksie Potential ACEC/RNA***

*Description and values:* Hawksie-Walksie proposed ACEC/RNA includes what was nominated as Hawk Mountain I, Hawk Mountain II, and Hawksie-Walksie lowland area. These areas were originally nominated in 1982. The boundary was refined in 1984 and it was proposed again in 1992 by the ONHP. The boundary at that time included approximately 1,920 acres located on the upper slopes between Acty Mountain and Hawk Mountain in the eastern portion of the Beaty Butte Allotment (Map SMA-15). The proposed ACEC/RNA is entirely within the Hawk Mountain and Sage Hen Hills WSA's and comprises 17,339 acres.

The elevation for the site ranges from 5,900 to 6,500 feet. The most important ecological characteristic

about the site is the high quality grasslands. It includes representations of excellent condition big sagebrush grasslands with a mix of grass species. Grass species present include Idaho fescue, Thurber's needlegrass, bluebunch wheatgrass, prairie junegrass, bottlebrush squirreltail, Sandbergs bluegrass, and Indian ricegrass. Grazing has been light in the area due to lack of water sources and the general remoteness of Hawk Mountain.

Significant cultural resources, ranging in age from 10,000 years ago until recent, include rock art, lithic scatters, stone tool manufacture sites, and campsites are found in the area.

Hawksie-Walksie meets the relevance criteria for creating a RNA as it contains a diversity of high quality bunchgrasses, including the two ONHP cells (ONHP 1998):

- (11) big sagebrush/bluebunch wheatgrass
- (12) big sagebrush/Idaho wheatgrass

This site also meets the importance criteria as the plant communities represent an example of biodiversity in the high desert grassland steppe. This ecosystem has a variety of seed source potential for collection and replanting in southeastern Oregon. Although these sites are isolated and difficult to reach, the potential for education and research is important. The genetic variability of the grass species and steppe dynamics related to fire and grazing pressures are just a few of the potential research categories. Hawksie-Walksie meets the significance criteria as a RNA.

The Hawksie-Walksie area shows moderate potential for oil/gas and moderate potential in certain areas for base/precious metals and perlite. However, the likelihood of any minerals activity based upon history and current economics is low. The potential for all other minerals is low.

### ***High Lakes Potential ACEC***

*Description and values:* The High Lakes Proposed ACEC is 36,755 acres located on a large plateau to the east of the Warner Valley and south of Hart Mountain. It extends from Highway 140 north to a line 3 miles south of the Hart Mountain National Antelope Refuge boundary (Map SMA-16).

This upland area is composed of north-south low trending valleys with intermittent lakes found within them. The elevation varies between 5,800 and 6,314 feet on Little Juniper Mountain. The vegetation is largely low sagebrush, with scattered areas of tall

sagebrush and isolated stands of western juniper. A variety of shrubs are found around the lakes and in the cliff and landslide areas.

The High Lakes area contains one of the largest and most densely concentrated number of rock art sites anywhere in North America (Ricks 1995). These sites are often large with over 10,000 individual glyphs present. Extensive inventory and evaluation of the rock art of this region has been conducted (Ricks, M., *personal communication*). The area also has extensive indications of occupation sites and the area has value as a possible traditional cultural property.

The sites in the area have the potential to provide information on site settlement patterns and many other facets of study. Evidence exists that some of rock art is more than 7,000 years old. This makes them the oldest dated rock art sites in North America (Ricks 1995). As such, the area meets the criteria for importance.

The upland, low-sagebrush lithic soil areas contain many species of *Lomatiums* (desert parsley, biscuit root), bitterroot, sego lily, wild onions, balsamroot, big-headed clover, and other edible geophytes. Studies of the area indicate that cultural plants were collected and processed in the area over several thousand years. Native Americans continue to be interested in the plants of the area.

The Bureau sensitive plant species, *Agastache cusickii* (Cusick's giant-hyssop), a ONHP 2, has recently been located in the northern area of this proposed ACEC.

The High Lakes Proposed ACEC meets the criteria for relevance because of the longevity of the relationship of the Tribal people to the landscape (natural plant communities and ecosystem) they used; and because of the biodiversity of those plants and plant communities. The Native American concept of ecosystem management places the human beings within that landscape and not apart from it; this is a classic example of a remnant of that ancient system.

Two factors of the High Lakes Proposed ACEC meet the importance value: this area is more than locally significant and has qualities that make it fragile and irreplaceable. While many of the plants occur elsewhere, it is the juxtaposition of these plants to the humans (statistical correlation of the plant communities and rock art was demonstrated by Ricks [1995]), and the biodiversity and longevity of use of these plants as resources that make these plant communities significant.

Presence of known critical habitat for greater sage-grouse satisfies the criteria for relevance and importance designation as an ACEC.

The High Lakes area shows moderate potential for the occurrence of oil and gas. However, the likelihood of activity in both the short term and long term is nil. The potential for all other minerals is low.

### ***Juniper Mountain Potential ACEC/RNA***

*Description and values:* Juniper Mountain has been proposed as an ACEC by Dr. Richard Miller (Eastern Oregon Agricultural Research Center 1999). Juniper Mountain is located in south central Oregon approximately 4 miles east of Alkali Lake. Total area being proposed is 6,335 acres. This is a relatively isolated mountain rising to over 6,000 feet elevation along the border of Lake and Harney Counties (see Map SMA-17). The area is within the High Desert Ecological Province (Anderson 1996). Most of the mountain is covered with western juniper woodland that is expanding into surrounding sagebrush/grassland steppe of mountain big sagebrush and mixed perennial bunchgrasses. Much of the woodland consists of old growth juniper. The ONHP has also nominated the area to represent a cell for Basin and Range Ecosystems (ONHP 1998):

#### **(5) Western juniper/big sagebrush/Idaho fescue**

The northern, eastern, and southern aspects of Juniper Mountain are occupied by a dense old growth juniper woodland. The overstory tree canopy is 400 to 600 years old. A few trees within the stand are estimated to be near 1,000 years old (Miller, R.E., *personal communication*). Tree canopy cover ranges between 30 percent on the south aspect to 50 percent on the north aspect. This stand is unique in that: (1) it is the only old growth woodland of both its size and tree density within the Klamath, High Desert, and Snake River Ecological Provinces, (2) tree canopy and density are considerably greater than the old growth juniper woodlands occupying the Mazama Province, and (3) the woodland is growing on igneous derived soils rather than the aeolian sands that typify the old growth woodlands of the Mazama Province. Juniper Mountain is an example of what much of the mountain big sagebrush alliance would look like in the absence of fire. Although there is evidence of small fires throughout the woodland, a stand replacement burn has not occurred for a least 600 years.

Juniper Mountain proposed ACEC/RNA meets the relevance criteria in providing a unique and important

example of a natural system and processes for a fully mature old growth juniper woodland in the High Desert Ecological Province. It also meets the criteria by providing the ONHP cell need for Basin and Range Ecosystems:

(5) Western juniper/big sagebrush/Idaho fescue

The site also meets the importance criteria. The biological processes and plant communities on Juniper Mountain have special worth and are more than locally significant. Juniper Mountain's primary relevance as an ACEC/RNA would be for the natural processes and systems which are exhibited there.

In consideration for a RNA, Juniper Mountain would make an important addition to the RNA system in Oregon as it contains a natural system and plant community processes that are unique and in good condition. Oregon State University researchers have done a preliminary description of plant community composition, structure, and stand age on Juniper Mountain. Avian populations in both the old growth woodlands and sagebrush steppe communities have also been measured during the past 3 years. In addition, the University of Arizona and Oregon State University have collected tree ring samples for climate reconstruction. Genetic work is also being conducted on Juniper Mountain by the Intermountain Forest Service Research Laboratory in Reno, Nevada. Juniper Mountain meets the criteria for the designation of a RNA.

Juniper Mountain has moderate potential for oil and gas although the likelihood of exploration and development is nil in the short term and low in the long term. The potential for the occurrence of locatable, salable, or other leasable minerals is low, therefore no activity involving these minerals is expected.

**Rahilly-Gravelly Potential ACEC/RNA**

*Description and values:* The Rahilly-Gravelly area is located at the south end of the Warner Valley in the plateau and foothills dominated by western juniper, and tall and low sagebrush. The site runs north and south on the high hills that abut the Oregon-Nevada stateline. The elevations average 6,000 feet in the proposed area (Map SMA-18). The total area proposed is 19,648 acres.

The Rahilly-Gravelly area has been subjected to archaeological surveys more than most areas of the district. It is known to contain a wide variety and a high density of sites. It is also known to be an area

which has traditional cultural property values for the plant resources which are found there. The University of Nevada-Reno, has conducted archaeological excavations at several sites within the region. Earlier, the spring sites were the focus of investigations (Fagan 1974). Several large-scale archeological surveys in connection with geothermal exploration projects have been completed in the area.

Rahilly-Gravelly has significant prehistoric and historic cultural resources present. The high density of sites, the variety of sites, and the time depth of these sites, make the area important for the study of prehistory in the Northern Great Basin. The area is also known to be a plant source area important to the Northern Paiute. The area meets the criteria for relevance and importance in regard to cultural resources.

The Rahilly-Gravelly site contains scattered western juniper stands, tall sagebrush mosaic, and low sagebrush on the lithic soil flats. Prominent features of the site are the diversity of shrubs and the high quality grasses in the understory. Of particular note is the presence of squaw apple and bitterbrush along with big sagebrush in the shrub layer.

Of primary importance, the site fills the ONHP cells for the Basin and Range Ecosystems (ONHP 1998a):

(6) Western juniper/big sagebrush-bitterbrush  
(21) Mountain brush (mountain big sagebrush-  
bitterbrush-squawapple)  
(4) bitterbrush-sagebrush, mountain snowberry/  
Thurber needlegrass mosaic

The BLM sensitive plant species, Cooper's goldflower (*Hymenoxys cooperi*. var *canescens* = *H. lemmonii*), occurs four places in the area; these four locations are the only populations for this plant in Oregon. This variety occurs at the northwestern edge of its range in Oregon, and the total range for Cooper's goldflower is southern Idaho, southward through Nevada to northwestern Arizona, and west to eastern California. The status for ONHP is List 2 (threatened with extirpation in Oregon, may be more common elsewhere) (OHNP 1998b).

From a botanical standpoint, the Rahilly-Gravelly area meets the relevance criteria as habitat essential for maintenance of species diversity and as representative of the botanical cell need for ONHP. The site also meets the importance criteria, especially with the presence of the Bureau sensitive plant species, Cooper's goldflower.

Rahilly-Gravelly meets the criteria for a RNA, and is especially important because it exists in the ecotone where the northern Great Basin meets the sagebrush/bunchgrass steppe. The presence of squawapple, as well as the other shrubs, creates an opportunity for plant community and ecosystem biodiversity research. The variety and number of cultural sites and the research that has already taken place contributes to the importance of the area as a RNA from a cultural resources standpoint.

The northern two-thirds of the Rahilly-Gravelly proposed ACEC is within a known geothermal resource area and therefore has high potential for geothermal resources. The rest of the area has moderate potential for geothermal. The entire area has moderate potential for oil and gas. The likelihood of geothermal activity in the short term is low, but this is an important area for geothermal resource. It could be developed in the long term. The likelihood of oil and gas activity in both the short and long term is nil. The potential for occurrence of other mineral resources is low.

Presence of known critical habitat for greater sage-grouse satisfies the criteria for relevance and importance designation as an ACEC.

### **Red Knoll Potential ACEC**

*Description and Values:* The name of the 11,127-acre proposed Tucker Hill ACEC was changed to Red Knoll in order to avoid confusion with the Tucker Hill perlite mining area. Red Knoll is a geographic feature that is part of the Tucker Hill formation which is located within the larger Lake Abert/Chewaucan River drainage on the southern edge of the Chewaucan Marsh. The formation trends north and south and can be seen for a long distance (Map SMA-19). The vegetation of the area varies from greasewood/cheatgrass on sandy soil on the lower elevation area bordering Lower Chewaucan Marsh, to big sagebrush/bottlebrush squirreltail on the rocky sandy loam at the top of Red Knoll. Scattered western juniper and shrubs crown the rocky hill tops; elevations vary from 4,300 to 5,600 feet.

The Tucker hill formation has a dense concentration of cultural sites. These sites contains nearly every type of site which is known for the Great Basin region. It is also an area which has been shown to have traditional cultural values making it a potential traditional cultural property site (USDI-BLM 1996e). The density and wide variety of sites makes the area important for research and traditional cultural uses. The formation

meets the criteria for relevance and importance.

The south end of the formation is considered to be in good vegetative condition. The soils are thin but support sagebrush and diversity increases in the steep rocky areas near the hill tops where juniper, gooseberry, and long-flowered snowberry can be found. The snowberry (*Symphoricarpos longiflorus*) is a Bureau sensitive plant and requires protection. Recently a low lying prickly pear cactus (*Opuntia fragilis*) was found on the slopes of the formation. This cactus is disjunct from its normal distribution and the plant and habitat warrants study. Native bunchgrasses on the formation are bluebunch wheatgrass (*Agropyron spicatum*), needle-and-thread grass (*Stipa comata*), and Thurber's needlegrass (*Stipa thurberiana*).

A number of cultural plants are also found on the formation: *Lomatium macrocarpum*, *Lomatium nevadense*, *Lomatium nudicaule*, *Lomatium cambyii*, *Calochortus macrocarpus*, *Allium parvum*, *Mentzelia albicaulis*, *Orobanch fasciculata*, *Ribes cereum*, and the above mentioned grasses. All contribute to the biodiversity of the plant community and ecosystem structure (USDI-BLM 1996e).

While this area contains no ONHP plant community cells, it does represent a unique plant community found on shallow soils. The composition of the community and the presence of the BLM Bureau sensitive plant, long-flowered snowberry, and the brittle cactus meet the criteria for relevance and importance.

Presence of known critical habitat for greater sage-grouse satisfies the criteria for relevance and importance designation as an ACEC.

The proposed Red Knoll ACEC is south of Cornerstone's Tucker Hill Perlite Mine and all the claims associated with the mine. There are no mining claims within the proposed ACEC. The north end of the proposed ACEC shows moderate potential for perlite, but the likelihood of activity is low because of the poor quality of the material. The proposed ACEC has moderate potential for geothermal and oil and gas. However, the likelihood of any activity is nil. There is moderate potential for the occurrence of base and precious metals in the vicinity of Section 18, T.35S., R.20E. The potential for the occurrence of leasable minerals is low. There are rock and gravel sites along the south perimeter of the area that have a moderate to high likelihood of being developed in the short term.

### **Spanish Lake Potential ACEC/RNA**

*Description and values:* In 1992, the ONHP (Vander Schaaf 1992) proposed the Spanish Lake site for an ACEC/RNA. This site is located in the south end of the Warner Basin, south of Greaser Reservoir and northeast of Coleman Lake (see Map SMA-20). Spanish Lake is a semi-dry playa/lake that is mostly barren and surrounded by salt desert scrub. The community is much more common to the south in the Great Basin, but in Oregon, this community exists only in a few areas. Total area being proposed is 4,699 acres.

Spanish Lake has several natural plant communities of salt desert scrub and alkali greasewood. Of particular importance is the extensive shadscale-budsage/bunchgrass community that dominates the uplands to the east of the usually dry lake as well as portion of the flats surrounding the playa. ONHP considered this plant community to be in good ecological condition and to meet the requirements to fill a natural area cell need. This community is extensive at the site covering side slopes in two sections. The bunchgrass understory consists of primarily bottlebrush squirreltail. Also present at the site is spiny hopsage, gray rabbitbrush, and seablite. Plant communities representing ONHP cell needs for Basin and Range are (ONHP 1998a):

(19) Black greasewood-shadscale/bunchgrass playa margin vegetation

(34) shadscale-budsage/bunchgrass salt desert shrub

(73) Bare playa with poverty weed

The Spanish Lake proposed ACEC/RNA meets the relevance criteria as it contains a diversity of salt desert scrub communities and fulfills ONHP cell needs. The area also meets the importance criteria as these communities are widespread throughout the Great Basin but have not been represented to date in the combination found at Spanish Lake in any existing RNA's in Oregon. In particular, the shadscale-budsage community is not represented in any existing RNA's and thus the site is important for protecting an example of this community type.

Although found to the south in Nevada, this area is one of the few northern-most desert shrub communities found in Oregon, and it provides an excellent laboratory to study the biodiversity and resilience of these plant communities. It is believed that these spiny plant communities arose in the Pleistocene under the foraging pressures of now extinct mammals; the occurrence this far north offers unique possibilities for genetic

studies of the individual plant species. The area meets the criteria for establishing a RNA.

Spanish Lake has moderate potential for lakebed evaporites, geothermal, and oil/gas. However, the likelihood of exploration and development of any of these minerals is low, with the possible exception of geothermal resources. The potential for occurrence of all other minerals is low.

### **Table Rock Potential ACEC**

*Description and values:* Table Rock, formed by steam explosions resulting from rising magma encountering ground or surface water, is one of several basaltic maar volcanoes found in the Silver Lake/Fort Rock area. Table Rock dominates the area east of the town of Silver Lake and southwest of Christmas Valley (see Map SMA-21). It rises to an elevation of 5,621 feet and covers 5,138 acres. The vegetation on the formation is juniper, including some ancient trees, tall sagebrush, ash outcrop plants, and areas of low sagebrush. The volcanic soils support two BLM Bureau sensitive plants: Cusick's buckwheat (*Eriogonum cusickii*) and snow-line cymopterus (*Cymopterus nivalis*).

The Table Rock formation has been extensively inventoried for cultural resources as part of BLM project work, power line rights-of-way inventory and archaeological research projects. Excavations have been conducted at several site locations over a 50-year period. The formation is known to have many sites present (Aikens and Jenkins 1995; Paul-Mason 1993 [in Aikens and Jenkins]).

The area has significant cultural values present on the formation. The area has a high density of unique site types such as rock cairns, caves, and rock alignments. The area meets the criteria for relevance and importance.

The sites of the formation are important for the study of the prehistory and ethnography of the region. The area meets the criteria for importance.

The towering basalt column of Table Rock with its surrounding maar is a significant visual feature on the landscape, with dramatic relief in form and color. Vegetation changes between grasses and juniper stands provide added contrast. It is a dominant feature visible from Highway 31, which is a designated State and Federal Oregon outback scenic byway, and to County Road 5-14F, which is part of a national back country byway. The area was inventoried and is managed as

## VRM Classes III and IV.

Although VRM management classes are low, Table Rock's location adjacent to the Christmas Valley National Back Country Byway and the Oregon Outback State and National Scenic Highway, makes it more than locally significant. Table Rock possesses regionally important scenic value. Therefore, it meets the relevance and importance criteria.

Although the proposed area does not contain any ONHP plant community cells, it does represent a variety of specialized plants communities found on dry rocky volcanic soils. The presence of two BLM Bureau sensitive plants adds to the ecological biodiversity of the area. Cusick's buckwheat (*Eriogonum cusickii*) is on ONHP List 1 (threatened or endangered throughout its range). There are a few isolated Cusick's buckwheat plants located within the ash soils on the north part of the formation. The snowline cymopteris (*Cymopteris nivalis*) is more prevalent and is found along the top of the formation tucked into the protective rocks, under the junipers, and in some places out in the open ash soils. The snowline cymopteris is on ONHP List 2 (threatened with extirpation in Oregon, may be more common elsewhere). The Lakeview and Burns BLM Districts are in the process of finalizing a conservation agreement with the USFWS to conserve the future of Cusick's buckwheat.

The Table Rock area meets the relevance criteria as habitat essential for maintenance of plant species diversity and meets the importance criteria, especially with the presence of the Bureau sensitive plants species: Cusick's buckwheat and snowline cymopterus. Much more research is needed on the genetics and physiology of these "ash flow plant" communities. The ease of getting to this site is an important factor to encourage future research. The juniper forests combined with the forb communities, including the sensitive plants, meet the criteria for a RNA on Table Rock.

Table Rock has moderate potential for the occurrence of geothermal resources; however, the likelihood of activity is nil. The potential for occurrence of other minerals is low.

### Areas Nominated for Designation and Rejected

Table I-1 lists areas that were nominated for designation as ACEC's, but upon evaluation by the resource area staff were found not to meet the relevance and/or importance criteria. These areas were then dropped from further consideration.

**Table I-1(A-ACEC).—ACEC's proposed but found not to meet relevance and importance criteria**

Proposed ACEC	Reason not approved
Alkali Lake toxic waste site	Site is not a part of the natural system
Bull Lake	Values are covered in Fish Creek Rim proposed ACEC
Christmas Lake	Values are not significant (lake has been dry since early 1900s)
Coleman Lake	Values are represented by other designations
Crane Mountain Front	Special status plants are not presently threatened (to be covered in USFWS conservation agreement for <i>Eriogonum prociduum</i> )
Elymus triticoides site	Cell represented elsewhere in Oregon
Guano Valley	Values are not significant
Plush Road	Foley Lake proposed ACEC represents the black sagebrush community cell
Pot Holes	<i>Orellana</i> spp. area values are not significant
Powerline Playa	Values are better represented elsewhere
Pronghorn	See Chapter 3, Overview of the Alternatives section, Alternatives Considered but Eliminated from Detailed Analysis subsection
Silver Lake Wildlife Management Area (BLM/Fremont National Forest)	USFS designated but BLM values were not significant
Silver Lake/Duncan Area	Values are better represented elsewhere and not significant

# Appendix L — Fire Rehabilitation

## L1: Lakeview Resource Area Normal Fire Rehabilitation Plan

### Introduction

The purpose and need of a normal fire rehabilitation plan is to streamline the emergency fire rehabilitation process to enable on-the-ground treatments to be completed within time frames consistent with the urgent nature of fire rehabilitation. The normal fire rehabilitation plan facilitates the orderly and timely rehabilitation of burned lands by delineating the procedures to be followed and treatments to be used after wildland fires occur on the LRA.

Appropriate use of emergency fire rehabilitation funds includes implementing the following practices to:

- Protect life, property, and soil, water and/or vegetative resources.
- Prevent unacceptable onsite or offsite damage.
- Facilitate meeting land use plan objectives and other Federal laws.
- Reduce the invasion and establishment of undesirable or invasive species of vegetation.

Emergency fire rehabilitation funds are not used for rehabilitation of wildland fire suppression efforts; this includes rehabilitating firelines, helispots, fire camp, etc. Costs for rehabilitating wildland fire suppression efforts will be funded by the wildland fire project code.

The terms *rehabilitation* and *restoration* are often used synonymously, especially in relationship to the use of native species to revegetate burned areas. Rehabilitation is the “repair” of a wildland fire area utilizing native and/or nonnative plant species to obtain a stable plant community that will protect the burned area from erosion and invasion of weeds. Restoration is the use of a diverse mixture of only native species to obtain a plant community that is similar in appearance and function to the historic vegetation.

Total restoration of a burned area is not within the scope of the emergency fire rehabilitation program, although the use of native plants to rehabilitate burned

areas is strongly encouraged. Native plants are to be used on those soils and ecological sites where they are, (1) adapted, (2) able to establish and survive with weed competition and periodic drought, (3) compatible with other land uses, and (4) reasonably priced relative to the land use and emergency fire rehabilitation plan objectives. The application of emergency fire rehabilitation practices should be consistent with the Rangeland Health Standards and Guidelines and the best available science in as much as the constraints of emergency fire rehabilitation policy will allow.

This plan guides emergency wildland fire rehabilitation efforts in areas of the LRA that meet one or more of the following criteria:

- Areas that are highly susceptible to accelerated soil erosion, either because of soil characteristics, steep topography, or recurrent high winds.
- Areas where native grasses and forbs cannot reasonably be expected to provide soil and watershed protection within 2 years following fire.
- Areas where unacceptable vegetation, such as noxious weeds or invasive annuals, may readily invade and become established following fire.
- Areas where shrubs are an important wildlife habitat component for greater sage-grouse, mule deer and/or pronghorn. Map V-1 delineates these areas.

The process for implementing emergency fire rehabilitation activities through a site-specific plan development process is described as follows:

1) Following a wildland fire, the area manager, consulting with resource specialists, will decide if fire rehabilitation is needed. If fire rehabilitation is needed, an interdisciplinary team reviews the burn and selects the proper rehabilitation prescription from this plan. (If the proper prescription does not fall under the scope of this plan, refer to the “Emergency Fire Rehabilitation Handbook” [H-1742-1] for guidance. Generally, rehabilitation efforts not covered in this plan would require an environmental assessment and approval by the State Director.)

2) The prescription identifies the appropriate seed mixture, application rates, planting methods, and



costs. The prescription also describes any additional treatments that may be necessary including shrub planting, erosion control structures, protection fencing, and grazing adjustments beyond the normally prescribed minimum two growing seasons rest period.

3) A budget is created that summarizes the rehabilitation costs by fiscal year. This budget is sent to the State Director for funding approval.

4) For all rehabilitation projects covered by this plan, a site-specific rehabilitation plan using the best available science will be prepared that is tiered to this plan. Additionally, each rehabilitation project requires a normal fire rehabilitation plan treatment form.

5) Cultural and threatened or endangered species clearances will be completed prior to project implementation. Known populations of threatened or endangered plants will be marked and that area restricted from heavy equipment use. Cultural sites discovered during clearances or previously known sites will be marked and avoided by ground disturbing equipment.

Due to the broad spectrum of situations encountered in emergency fire rehabilitation, several options of possible treatments, either separately or in combination, must be considered. The list of activities that may be considered are outlined below.

## Natural Revegetation

In many cases, successful reestablishment of native species occurs if the perennial plant species are not killed as a result of the fire, or if viable and desirable seed or root mass is present. Generally, in these areas it would be necessary to rest the burned area from livestock grazing for at least two growing seasons. In some situations, the area may be closed to vehicles by issuing a temporary emergency closure. The only rehabilitation that may be necessary is repairing damaged fencing and/or construction of temporary fencing around the burned area until the native vegetation is successfully reestablished.

## Seeding with Rangeland Drills or Aerial Seeding

Seeding of burned areas would only be considered if the emergency fire rehabilitation team determines that the burned area would not successfully reestablish to a

native perennial plant community in a reasonable amount of time (generally two growing seasons under normal precipitation).

Seed mixtures have been formulated that are designed for specific soil types (see Appendix G). These seed mixtures are intended only as a guide and may be modified as each fire rehabilitation project requires. Parameters such as soil properties, erosion potential, aspect, elevation, intended use, potential plant community, threat to existing watershed, and seed cost and availability would be evaluated in selecting seed mixtures.

The use of native plants for rehabilitation is strongly encouraged and is both BLM emergency fire rehabilitation policy and a standard for meeting rangeland health objectives. That policy is tempered, however, by the availability of native seed at a reasonable cost, its adaptation to the area proposed for treatment, impacts of competition on seeding establishment, and land use plan requirements. There are many areas where one or more of these criteria cannot be met, and the only choice is between seeding nonnatives, such as crested wheatgrass and noxious weeds becoming established in the disturbed areas. Given these situations, the use of nonnatives is allowed to biologically and physically stabilize the burned area until the earliest possible time when the introduced grass seedlings can be restored (converted) to a more diverse native plant community. Where available, native seed should be used in combination with nonnatives to complete a diverse mix of species to meet particular land use objectives for the site.

### Seeding guidelines:

- Native species will be utilized over nonnative species as appropriate and based on seed availability.
- A project inspector will monitor all phases implementation.
- The area to be seeded will be rested from grazing for at least two growing seasons or until vegetation is successfully established. Livestock will be excluded by using fencing, closing specific pastures, or closing entire allotments.
- Only native species will be seeded in WSA's. See Appendix L2 for additional guidance regarding emergency fire rehabilitation activities in WSA's.
- Monitoring will determine the effectiveness of

seeding and to indicate when grazing will resume.

- Use only certified weed-free sources and collect seed samples for an All States Noxious Weed Test.
- Seed nonnatives only in areas of the burn where high erosion or unacceptable vegetation is expected to occur. This may include, but not be limited to, roads, gullies, noxious weed areas, or cheatgrass sites. This will allow refugia for native species where they can reestablish without competition from nonnative species.
- If nonnative species are used, a preference should be given to species that are not invasive and can be replaced naturally by native shrubs and grasses. If this is inappropriate or is ineffective, a commitment should be made for long-term secondary restoration of a site following planting of nonnatives.

### **Construction of Erosion and Sediment Control Structures**

Where the possibility of damage is great, structures, such as retention dams, or land treatments, such as contour furrowing, may be needed to control erosion, sediment yield, and flood waters. In most cases, these treatments would be used in combination with seeding. Gully checkdams or plugs may be required where head-cutting erosion is occurring. Gully treatment may also include broadcast seeding and chaining to establish perennial vegetation on the channel sides and bottom. Planning, design, and construction of erosion and sediment control structures and flood water retarding structures will be implemented in accordance with BLM Manual 1972, Water Control Structures.

Any erosion and sediment control structures proposed within a WSA must comply with wilderness IMP (USDI-BLM 1995b) (see Appendix J1).

### **Construction of Support Facilities**

Fences, gates, cattleguards, and other control features will be constructed or repaired as needed to further natural revegetation, and to protect seedings or other improvements created for rehabilitation. Follow BLM Manual Handbook H-1741-1 for fencing specifications.

Any construction of support facilities proposed within a WSA must comply with wilderness IMP (USDI-BLM 1995b) (see Appendix J1).

# Appendix N — Minerals

## N2: Mineral Development Scenarios

### Introduction

This appendix describes the reasonable foreseeable development scenarios for development of leasable, locatable, and salable mineral commodities. The purpose of the reasonable foreseeable development scenario is to provide a model that predicts the level and type of future mineral activity in the planning area, and will serve as a basis for cumulative impact analysis. The reasonable foreseeable development first describes the steps involved in developing a mineral deposit, with presentation of hypothetical exploration and mining operations. The current activity levels are discussed in Chapter 2 of this document. Future trends and assumptions affecting mineral activity are discussed here, followed by the prediction and identification of anticipated mineral exploration and development.

### Scope

The development scenarios are limited in scope to BLM-administered lands within the planning area. The reasonable foreseeable development is based on the known or inferred mineral resource capabilities of the lands involved, and applies the conditions and assumptions discussed under Future Trends and Assumptions. Changes in available geologic data and/or economic conditions would alter the reasonable foreseeable development, and some deviation is to be expected over time.

### Leasable Mineral Resources

***Reasonably Foreseeable Development of Oil and Gas (Common to all Alternatives Except Alternative E)***

#### ***Future Trends and Assumptions***

Based on the history of past drilling and foreseeable development potential in the LRA, activity over the next 15–20 years would continue to be sporadic. It is anticipated that oil and gas activity would consist of the issuance of a few leases, a few geophysical surveys, and perhaps the drilling of one or two exploratory holes. This could occur almost anywhere in the district, but more likely would occur in Fort Rock/

Christmas Valley, and/or Goose Lake, Warner, or Guano Valleys.

Because of the low potential for development of hydrocarbons (even though the potential for occurrence is moderate in some areas), we do not anticipate the discovery of a producible oil and gas field during the period covered by this plan; however, to comply with the Supplemental Program Guidance for Fluid Minerals (BLM Manual Section 1624.2), the potential surface impacts associated with the discovery and development of a small oil/gas field are given in the following sections.

### ***Geophysical Exploration***

Geophysical exploration is conducted to determine the subsurface structure of an area. Three geophysical survey techniques are generally used to define subsurface characteristics through measurements of the gravitational field, magnetic field, and seismic reflections.

Gravity and magnetic field surveys involve small portable measuring units which are easily transported via light off-road vehicles, such as four-wheel drive pickups and jeeps, or aircraft. Both off-road and on-road travel may be necessary in these two types of surveys. Usually a three-man crew transported by one or two vehicles is required. Sometimes small holes (approximately 1 inch by 2 inches by 2 inches) are hand dug for instrument placement at the survey measurement points. These two survey methods can make measurements along defined lines, but it is more common to have a grid of discrete measurement stations.

Seismic reflection surveys are the most common of the geophysical methods, and they produce the most detailed subsurface information. Seismic surveys are conducted by sending shock waves, generated by a small explosion or through mechanically beating the ground surface with a thumping or vibrating platform, through the Earth's surface. The thumper and vibrator methods pound or vibrate the ground surface to create a shock wave. Usually four large trucks are used, each equipped with pads about 4-foot square. The pads are lowered to the ground, and the vibrators are electronically triggered from the recording truck. Once information is recorded, the trucks move forward a short distance and the process is repeated. Less than 50 square feet of surface area is required to operate the equipment at each recording site.

The small explosive method requires that charges be detonated on the surface or in a drill hole. Holes for the charges are drilled utilizing truck-mounted or portable air drills to drill small-diameter (2–6 inches) holes to depths of 100–200 feet. Generally 4–12 holes are drilled per mile of line and a 5–50-pound charge of explosives is placed in the hole, covered, and detonated. The created shock wave is recorded by geophones placed in a linear fashion on the surface. In rugged terrain, a portable drill carried by helicopter can sometimes be used. A typical drilling seismic operation may utilize 10–15 men operating 5–7 trucks. Under normal conditions, 3–5 miles of line can be surveyed daily using this method. The vehicles used for a drilling program may include heavy truck-mounted drill rigs, track-mounted air rigs, water trucks, a computer recording truck, and several light pickups for the surveyors, shot hole crew, geophone crew, permit man, and party chief.

Public and private roads and trails are used where possible. However, off-road cross-country travel is also necessary in some cases. Graders and dozers may be required to provide access to remote areas. Several trips a day are made along a seismograph line, usually resulting in a well defined two-track trail. Drilling water, when needed, is usually obtained from private landowners.

The surface charge method utilizes 1–5-pound charges attached to wooden laths 3–8 feet above the ground. Placing the charges lower than 6 feet usually results in the destruction of vegetation, while placing the charges higher, or on the surface of deep snow, results in little visible surface disturbance.

It is anticipated that four notices of intent involving seismic reflection and gravity/magnetic field surveys would be filed under all alternatives except Alternative E, during the life of this plan.

### **Drilling Phase**

Once the application for a permit to drill is approved, the operator may begin construction activities in accordance with stipulations and conditions. When a site is chosen that necessitates the construction of an access road, the length of road may vary, but usually the shortest feasible route is selected to reduce the haul distance and construction costs. Environmental factors or a landowner's wishes may dictate a longer route in some cases. Drilling activity in the planning area is predicted to be done using existing roads and constructing short (approximately 0.25 mile) roads to access drill site locations.

Based on past oil and gas drilling in Oregon, it is projected that one to three exploratory "wildcat" well(s) would be drilled on BLM-administered land in the planning area. The estimated success rate of finding hydrocarbons is predicted to be no greater than 10 percent, based on the average U.S. wildcat well success rate. Drilling is expected to be in an area of moderate oil and gas potential—the highest level of potential for the occurrence of oil and gas in the planning area. There is approximately a 1 in 50 chance of new field discovery during the life of the plan.

During the first phase of drilling, the operator would move construction equipment over existing maintained roads to the point where the access road begins. No more than 0.25 mile of moderate duty access road with a cinder or gravel surface 18 to 20 feet wide is anticipated to be constructed. The total surface disturbance width would average 40 feet with ditches, cuts, and fill. The second part of the drilling phase is the construction of the drilling pad or platform. The likely duration of well development, testing, and abandonment is predicted to be less than 12 months per drill site. The total disturbance for each exploratory well and any new road constructed to that drill site is expected to be no more than 6 acres. The total surface disturbance caused by exploratory drilling over the life of the plan is expected to be no more than 12 acres.

### **Field Development and Production**

No field development is expected to occur during the life of the plan. However, the following scenario describes operations and impacts associated with field development and production.

Small deposits of oil or gas discovered in the planning area will not be economic to develop. The minimum size that would be economic would be a field containing reserves of 50–60 billion cubic feet of gas over a productive lifespan of 10 years. The total area of such a field would be 200 acres with a likely well spacing of 160 acres. The field would require four development wells in addition to the discovery well. Each development would require 0.25 mile of road. Development well access roads would be cinder or gravel surfaced and would have a width of about 20 feet. The width of the surface disturbance associated with roads would average 40 feet. Produced gas would be carried by pipelines. Average pipeline length is estimated at 30 to 60 miles. The width of surface disturbance for pipelines would average 30 feet. Any produced oil would be trucked to refineries outside of Oregon. Well servicing requirements would be provided by established service companies.

The total surface disturbance for well pads would be 8 acres; for roads, 5 acres; field development, 13 acres; and pipelines, 600 acres. The total surface disturbance caused by exploration and development over the life of the plan would be 670 acres.

### ***Plugging and Abandonment***

Wells that are completed as dry holes are plugged according to a plan designed specifically for the downhole conditions of each well. Plugging is accomplished by the placing of cement plugs at strategic locations downhole and up to the surface. Drilling mud is used as a spacer between plugs to prevent communication between fluid bearing zones. The casing is cut off at least 3 feet below ground level and capped by welding a steel plate on the casing stub. After plugging, all equipment and debris would be removed and the site would be restored as near as reasonably possible to its original condition. It is predicted that the one exploratory well drilled would be plugged and abandoned.

### ***Reasonably Foreseeable Exploration and Development of Geothermal Resources (Common to all Alternatives Except Alternative E)***

#### ***Future Trends and Assumptions***

With environmental protection and enhancement being a major consideration in the Pacific Northwest and California, clean, low-impacting energy sources are becoming more important. The abundant geothermal resources thought to be present in the Northwest are essentially undeveloped. As the demand for environmentally-friendly energy sources increases, the three known geothermal resource areas located in the planning area would attract renewed attention.

#### ***Geophysical/Geochemical Exploration***

As with oil and gas, geothermal geophysical operations can take place on leased or unleased public land. Depending upon the status of the land (leased/unleased), the status of the applicant (lessee/nonlessee), and the type of geophysical operation proposed, (drilling/non-drilling), several types of authorizations can be used if the proposed exploration exceeds "casual use," as defined in 43 CFR 3200.1. In all cases, the authorizations require compliance with NEPA and approval by the authorized officer. As with oil and gas, the operator is required to comply with all terms and conditions of the permits, regulations, and other requirements, including reclamation, prescribed by the authorized officer. Monitoring for compliance

with these requirements would be done during the execution of the operations and upon completion.

In addition to the geophysical methods discussed in the Oil and Gas section, the following exploration techniques are often employed in geothermal prospecting:

**Microseismic:** Small seismometers are buried at a shallow depth (hand-dug holes) and transmit signals from naturally-occurring, extremely minor seismic activity (micro-earthquakes) to an amplifier on the surface. Stations are located away from roads to avoid traffic "noise." These units are often backpacked into areas inaccessible to vehicles.

**Resistivity:** Induced polarization techniques are used to measure the resistance of subsurface rocks to the passage of an electric current. A vehicle-mounted transmitter sends pulses of electrical current into the ground through two widely-spaced electrodes (usually about 2 miles apart). The behavior of these electrical pulses as they travel through underlying rocks is recorded by "pots" (potential electrodes), small ceramic devices that receive the current at different locations. The electrodes are either short (2–3 feet) rods driven into the ground, or aluminum foil shallowly buried over an area of several square feet. Two or three small trucks transport the crew of three to five people to transmitting and receiving sites.

**Telluric:** A string of "pots" record the variations in the natural electrical currents in the earth. No transmitter is required. Small trucks are used to transport the crew and equipment.

**Radiometric:** Radioactive emissions (generally radon gas) associated with geothermal resources are usually measured using a hand-held scintillometer, often at hot spring locations. Another method used involves placing plastic cups containing small detector strips sensitive to alpha radiation either on the surface or in shallow hand-dug holes. If holes are dug, they are covered, and the cups left in place for 3–4 weeks. At the end of the sampling period, the cups are retrieved and all holes are backfilled. These surveys can be conducted on foot or with the aid of light vehicles.

**Geochemical Surveys:** Geochemical surveys are usually conducted at hot springs by taking water samples directly from the spring. Sampling for mercury associated with geothermal resources is often done by taking soil samples using hand tools. These surveys can be conducted on foot or with the aid of light vehicles.

**Temperature Gradient Drill Hole Surveys:** Temperature gradient holes are used to determine the rate of change of temperature with respect to depth. Temperature gradient holes usually vary in diameter from about 3.5 to 4.5 inches, and from a few hundred feet to about 5,000 feet in depth. They are drilled using rotary or coring methods. Approximately 0.1 to 0.25 acre per drill hole would be disturbed. A typical drill site could contain the drill rig, most likely truck-mounted, water tank(s), fuel tank, supply trailer, and a small trailer for the workers. Drilling mud and fluids would be contained in earthen pits or steel tanks. Water for drilling would be hauled in water trucks, or if suitable water sources are close, could be piped directly to the site. Water consumption could range from about 2,000 to 6,000 gallons per day, with as much as 20,000 gallons per day under extreme lost circulation conditions.

Other equipment that would be utilized includes large flatbed trucks to haul drill rod, casing, and other drilling supplies, and in some cases, special cementing and bulk cement trucks. Two or three small vehicles would be used for transporting workers. In most cases, existing roads would be used. It is estimated that short spur trails (usually less than a few hundred yards long) would be bladed for less than 10 percent of these holes. All holes would be plugged and abandoned to protect both surface and subsurface resources, including aquifers, and reclamation of disturbed areas would be required, unless some benefit to the public could be gained—for example, a water well or camping area.

Depending upon the location and proposed depth of the drill hole, detailed plans of operation that cover drilling methods, casing and cementing programs, well control, and plugging and abandonment may be required.

Based upon past geothermal exploration in Oregon, and a projected increase in power demand in the Northwest by the end of the decade, it is anticipated that during the life of this plan, 15 notices of intent for surface geophysical surveys, and 15 notices of intent to drill 40 temperature gradient holes, would be filed under all alternatives, except Alternative E. These notices of intent would most likely be filed within the Crump Geyser and Summer Lake Known Geothermal Resource Areas.

### **Drilling and Testing**

Drilling to determine the presence of, test, develop, produce, or inject geothermal resources can be done only on land covered by a geothermal resources lease.

A typical geothermal well drilling operation would require 2–4 acres for a well pad, including reserve pit, and 0.5 mile of moderate duty access road with a surface 18–20 feet wide, totalling up to 40 feet wide with ditches, cuts, and fills. Existing roads would be used whenever possible. Total surface disturbance for each well, and any new road is expected to be no more than 6 acres. In some cases, more than one production well could be drilled from one pad. Well spacing would be determined by the authorized officer after considering topography, reservoir characteristics, optimum number of wells for proposed use, protection of correlative rights, potential for well interference, interference with multiple use of lands, and protection of the surface and subsurface environment. Close coordination with the State would take place. It is anticipated that the duration of well development, testing, and if dry, abandonment, would be 4 months.

Prior to abandonment, the operator would be required to plug the hole to prevent contamination of aquifers and any impacts to subsurface and surface resources. Plugging is accomplished by the placing of cement plugs at strategic locations downhole and up to the surface. Depending upon the formations encountered, drilling mud could be used as a spacer between plugs to prevent communication between fluid bearing zones. The casing is cut off at least 6 feet below ground level and capped by welding a steel plate on the casing stub. After plugging, all equipment and debris would be removed, and the site would be restored as near as reasonably possible to its original condition. A dry hole marker is often placed at the surface to identify the well location. If the surface owner prefers, the marker may be buried. Any new roads not needed for other purposes would be reclaimed.

It is estimated that four to six exploratory wells would be drilled under all alternatives, except Alternative E, during the life of this plan.

### **Geothermal Power Plant Development**

It is projected that one power plant generating 24 megawatts of electricity (gross), would be constructed within the Crump Geyser Known Geothermal Resource Area under all alternatives, except Alternative E, during the life of this plan. It is anticipated that the developed geothermal resource would be water-dominated and that the geothermal power conversion system would be either single or double flash, or binary cycle. Before geothermal development could occur, site-specific baseline studies and environmental analyses, with public involvement, would be done. The scenario below describes the level of disturbance that would likely occur from the development of a 24

megawatt power plant.

Five to seven production wells and one or two injection wells would be drilled. It is anticipated that access would be provided by existing roads, and the construction of short (0.5 to 1-mile long) roads with a surface of 18 to 20 feet wide, totalling up to 40 feet wide with ditches, cuts, and fills. Surface disturbance from well pad and road construction would probably range from 2–6 acres per well. The power plant facility, including separators, energy converters, turbines, generators, condensers, cooling towers, and switchyard, would involve an estimated 10–5 acres. Pipelines and powerlines would disturb an additional 3–6 acres. If a water cooling system is employed, one to three water wells, requiring about 0.25 acre per well, would be drilled, unless the cooling water was obtained from the geothermal steam condensate. Depending upon location, terrain, geothermal reservoir characteristics, and type of generating facility, total surface disturbance for a 24 megawatt (gross) geothermal power plant, and ancillary structures, would probably range from about 26–76 acres, or about 1–3 acres per megawatt. After construction, approximately one-third to one-half of the disturbed area would be revegetated. Prior to abandonment, 30–50 years later, the remaining disturbed area would be reclaimed.

### **Direct Use of Geothermal Energy**

Low- and moderate-temperature (50–300 degrees F) geothermal resources have many direct use applications. Direct applications, and potential development scenarios, include space heating and cooling of residences and businesses, applications in agriculture, aquaculture, and industry, and recreational and therapeutic bathing. Depending upon the type of use and magnitude of operation, surface disturbance could range from a few acres for a well and greenhouses, or food processing facility, to tens of acres for larger agricultural or aquacultural developments. It is anticipated that two wells would be drilled to support one geothermally-heated greenhouse operation within the Summer Lake Known Geothermal Resource Area under all alternatives, except Alternative E, during the plan period.

### **Reasonably Foreseeable Exploration and Development of Sodium Compounds and Associated Minerals (Common to all Alternatives Except Alternative E)**

### **Future Trends and Assumptions**

The demand for soda ash (sodium carbonate) and

caustic soda (sodium hydroxide) is increasing, especially in the Pacific Northwest and the Pacific Rim countries. Because acid-based chemicals used in the bleaching of paper pulp produce dioxins, alkali bleaching is ecologically preferable. Besides its use in the pulp and paper industry, sodium carbonate is used extensively in making glass, caustic soda, soaps, and detergents, and for flue gas desulfurization. All current soda ash production in the United States is from Wyoming and southern California. As soda ash and caustic soda prices increase and overland transportation costs rise, Oregon deposits, such as the one at Lake Abert, may have commercial significance because of their proximity to the pulp markets in the Pacific Northwest, glass container plants in northern California, Portland port facilities that handle about 60 percent of the U.S. soda ash export business, and the port of Coos Bay. Considering past interest in Lake Abert's sodium potential, and its proximity to use areas and shipping ports, it is projected that there will be renewed interest.

### **Sodium Exploration**

Sampling of lake water is done using a small row/motor boat or floating platform and hand-operated PVC or stainless steel bailer. Shallow (tens of feet) sediment core samples can be taken from a boat or platform, or land, using piston or thin-wall sediment samplers. Hand or hand-held power augers or truck-mounted power augers are also used when taking shallow samples on land.

Deeper subsurface exploration involves the drilling of core holes using a truck-mounted drilling rig, or if done over water, a raft or platform-mounted rig. Drilling along the edges of the lake or on the playa using truck-mounted drilling rigs could be done using existing roads and trails, or might necessitate the construction of short spur roads from the existing access to the drill sites. If drilling were to occur in these areas during wet periods, temporary roads and drill pads would have to be built to support the weight of the drilling rig and supply trucks.

It is projected over the life of the plan that 2–4 prospecting permit applications would be filed to perform lake water and shallow sediment sampling and drill a total of 2–10, 100–1,000 foot-deep exploratory holes. If allowed, this could involve the construction of 0.25–1 mile of spur road (10–12 feet wide) construction, and a total of less than 2 acres for drill pad construction.

## ***Sodium Development***

Presently, U.S. soda ash production comes from the Green River Basin in Wyoming, and Searles and Owens Lakes in California. In Wyoming, trona, the principal ore from which the soda ash is made, occurs in several beds of varying thickness and covers an area of over 1,000 square miles. The deposit is buried, and extends from 800 to over 2,000 feet in depth. Most of it is mined using room and pillar underground methods, while solution mining is used to recover deeply buried trona. Using an array of injection and recovery wells, dilute sodium hydroxide solvent is introduced under pressure to dissolve the underlying trona. At Searles Lake, a dry lakebed, subterranean brines between 50 and 350 feet below the surface are extracted using an array of injection and recovery wells (numbering in the hundreds), pumps, and pipelines located in several areas on the lakebed. At Owens Lake, soda ash has been mined by digging perimeter channels that allow the interstitial fluids to drain, and harvesting the soda ash with front-end loaders (Kostick 1989).

Because the Lake Abert Basin is younger, and the lake and its drainage system are less extensive than the Green River Basin in Wyoming, deep, thick deposits are not anticipated. One hole 30 feet deep was bored and sampled in the middle of the playa at the north end of the lake. While thin surface encrustations contained 39 percent soluble salts (on an anhydrous basis), the salt content of the subsurface muds was found to decrease rapidly from 8 percent in the first foot to 4 percent at a depth of 12 feet, and to only 1 percent at 30 feet (Allison and Mason 1947). However, no deep exploration holes have been drilled in the area, and the potential for the occurrence of economic deposits of soda ash at depth is unknown. Geologically, Lake Abert is very similar to the Pleistocene-age Searles and Owens Lakes. Whether there are extensive subterranean brines, as there are with Searles Lake, is also unknown.

It is known that the waters of Lake Abert contain large quantities of sodium salts. The salts in the playas are redissolved during periods of high water and recharge the lake waters. Salts in the saturated lake-bottom sediments also diffuse into the waters above. In addition, salts are introduced into the system by springs and inflow from the Chewaucan River, and possibly transported in from the Summer Lake Basin by the prevailing northwesterly summer winds. While future exploration could discover deposits similar to those described in Wyoming and California, the following reasonably foreseeable development scenario is based upon the currently known mode of occurrence of

sodium compounds in Lake Abert:

One or more pumping inlet stations would be constructed, probably in the deeper parts of the lake. Submerged pipelines would transport lake water to one or more large, shallow evaporation ponds where the salts would be concentrated. The total area of the pond(s) would range from 2–4 square miles. They would be located within the lakebed itself and/or on the adjacent playa. The concentrated solution would be piped into secondary/tertiary evaporation ponds where the concentrate/precipitate would be loaded and transported offsite for processing. Alternatively, the concentrate/precipitate could be processed onsite, which would necessitate the construction of a processing plant. The area required for an onsite processing facility, including evaporation pond, pumping facilities and pipelines, roads, powerlines, the plant itself, and loading facilities, would range from 1–3 square miles. If the processing plant were not constructed, the total area necessary for the secondary/tertiary ponds and appurtenances would be somewhat less.

Depending upon the locations of the various aspects of an operation, new road and pipeline construction could vary from 5–15 miles in length, with the widths of disturbed areas ranging up to 40 feet. New powerline construction also would range from 5–15 miles. In some areas, roads, pipelines, and powerlines would occupy the same corridor.

Unused brine from the concentrating process would be pumped back onto the playa to dissolve more salts, evaporated in waste ponds ranging in size from 0.25–0.5 square mile, or pumped directly back into the lake.

An additional 5–20 acres would be needed for a water well, rock source for road and facilities construction, and other miscellaneous purposes.

The product would be shipped by truck or rail. Shipping by rail would necessitate the construction of a rail spur from the Lake Abert area south to Lakeview, with as little as less than a mile, to up to about 20 miles constructed on public land; the remainder would be constructed on private lands.

Before any development could take place, a lessee would have to submit a detailed, site-specific mining/processing/reclamation plan, including access, power, and water requirements, and an environmental review would be conducted. Lease



stipulations, and conditions of approval developed in part from mitigation measures identified in the environmental review, would be imposed to prevent unnecessary and undue environmental degradation.

It is projected that one proposal to mine sodium salts from Lake Abert will be received during the life of the plan.

## Locatable Mineral Resources

### *Reasonably Foreseeable Exploration and Development Scenarios (Common to all Alternatives Except Alternative E)*

#### Future Trends and Assumptions

The major commodities of interest would continue to be the precious metals gold and silver, and the State gemstone, Oregon sunstone. This is based on a combination of price and the favorable geology for mineral occurrences. Perlite mining at Tucker Hill is expected to continue, while diatomite mining on public land in Christmas Valley would be sporadic. Reclamation science would continue to advance due to experience and research. More detailed design effort would be placed on the reclamation of mined lands in the future. This would result in an overall increase in reclamation costs but those costs would pay dividends in the long-term with increased reclamation success.

The economics of mining in the planning area would be driven by the relationship between production costs and the market price of the commodity. While production costs can be controlled or anticipated through management and technology, the price of mineral commodities (especially of gold) could vary widely. The overall profitability of an operation, and hence the level of activity at the prospecting, exploration, and mining phases, for development of ore bodies would be closely related to the price of the mineral commodity. For example, based on the present market conditions and the demand for the high quality perlite found in the Tucker Hill area, Cornerstone expects continued exploration, resource definition, rock testing, and expansion of the mineral extractive activities within the current plan of operation. The perlite mine is not expected to expand beyond the current plan of operation during the life of this resource management plan. Although, the perlite mine is anticipated to expand beyond the scope of the current plan of operation through the expansion of the existing operation and additional development within the claim block outside

the life of this resource management plan.

No chemical heap-leaching operations are forecasted during the plan period. If such an operation is proposed during the life of the plan, it would be subjected to environmental review under a plan of operations pursuant to regulations found in 43 CFR 3809.

#### Casual Use, Notices, Plans of Operations, Use and Occupancy

There are three levels of use defined by the 43 CFR 3809 regulations—casual, notice, and plan of operations. Generally, casual use means activities resulting in negligible, if any, disturbance of public lands or resources. Mechanized earth-moving equipment or truck-mounted drills are not allowed under casual use. Notice-level operations involve surface-disturbing exploration operations of 5 acres or less. Casual use and notice-level operations do not involve Federal actions that require compliance with NEPA. A plan of operations is required for all mining activity that is not casual use, regardless of the number of acres disturbed. A plan is also required for all exploration activities that disturb over 5 acres, bulk sampling which will remove 1,000 tons or more of presumed ore for testing, or for any surface-disturbing operations greater than casual use in certain SMA's and lands/waters that contain federally-proposed or listed threatened or endangered species or their proposed or designated critical habitat. The approval of plans of operations is a Federal action that requires NEPA compliance. Mining claim occupancy associated with notice- or plan-level operations, also requires compliance with NEPA.

Details of plan of operations filing and processing requirements can be found in 43 CFR 3809.400. Generally, plans must include a detailed description of all operations, including a map showing all areas to be disturbed by mining, processing, and access, all equipment that would be used, periods of use, and any necessary buildings or structures. A detailed reclamation plan to meet the standards found in 43 CFR 3809.420, and a monitoring plan to monitor the effect of operations are also required. An interim management plan showing how the project area would be managed during periods of temporary closure to prevent unnecessary and undue degradation must also be submitted. The operator also must submit a reclamation cost estimate. The BLM may require operational and baseline environmental information, and any other information, needed to ensure that operations will not cause unnecessary and undue degradation.

When a plan of operations is received, BLM would

review it to make sure that it is complete. Where necessary, the BLM would consult with the State to ensure operations would be consistent with State water quality requirements. In addition, the BLM would conduct any consultation required under the “National Historic Preservation Act” or “Endangered Species Act.” Onsite visits would be scheduled when necessary. BLM could require changes to the plan of operations to ensure that the performance standards found in 43 CFR 3809.420 would be met, and that no unnecessary or undue degradation of lands or resources would occur. Plans of operations would be approved subject to the Locatable Minerals Surface Management Standards for Exploration, Mining, and Reclamation on the Lakeview District, found in Stipulations and Guidelines for Mineral Operations in Appendix N3, and the CWA BMP's in Appendix D. In addition, site-specific mitigating measures would be imposed when necessary. A financial guarantee covering the estimated cost of reclamation, as if BLM were to contract with a third-party, would have to be provided before operations could begin. The financial guarantee would have to be sufficient not only to cover costs of reclamation, but also costs associated with interim stabilization and compliance with Federal, state, and local environmental requirements while third-party contracts would be developed and executed.

BLM approval is necessary to occupy public land for more than 14 calendar days in any 90-day period within a 25-mile radius of the initially occupied site. Details for the submittal and approval of use and occupancy are contained in 43 CFR 3710. As defined in these regulations, occupancy means full or part-time residence on the public lands. It also means activities that involve residence; the construction, presence, or maintenance of temporary or permanent structures that may be used for such purposes; or the use of a watchman or caretaker for the purpose of monitoring activities. Residence or structures include, but are not limited to, tents, motorhomes, trailers, campers, cabins, houses, buildings, and storage of equipment or supplies. Also included are barriers to access, fences, gates, and signs intended to restrict public access.

Permanent structure means a structure fixed to the ground by any of the various types of foundations, slabs, piers, or poles, or other means allowed by building codes. The term also includes a structure placed on the ground that lacks foundations, slabs, piers, or poles, and that can only be moved through disassembly into its component parts or by techniques commonly used in house moving. The term does not apply to tents or lean-tos.

The disposal of sewage and gray-water would be subject to the rules and regulations of the ODEQ. The disposal of garbage and other debris would be subject to all appropriate local, state, and Federal rules and regulations. Likewise, the drilling of any water wells would be subject to all Oregon Department of Water Resources requirements. Permanent structures would be subject to all state and county permitting. Copies of all required local and state approvals and permits would be filed with the BLM prior to allowing any occupancy.

### **Background on the Development of a Locatable Minerals Mine**

The development of a mine from exploration to production can be divided into four stages. Each stage requires the application of more discriminating (and more expensive) techniques over a successively smaller land area to identify, develop, and produce an economic mineral deposit. A full sequence of developing a mineral project involves reconnaissance, prospecting, exploration, and mine development.

**Reconnaissance:** Reconnaissance-level activity is the first stage in exploring for a mineral deposit. This activity involves initial literature search of an area of interest, using available references such as publications, reports, maps, aerial photos, etc. The area of study can vary from hundreds to thousands of square miles. Activity that would normally take place includes large scale mapping, regional geochemical and geophysical studies, and remote sensing with aerial photography or satellite imagery. These studies are usually undertaken by academic or government entities, or major corporations. The type of surface-disturbing activity associated with reconnaissance-level mineral inventory is usually no more than occasional stream sediment, or soil and rock, sampling. Minor off-road vehicle use could be required.

**Prospecting:** As the result of anomalous geochemical or geophysical readings, unique geologic structure or feature, occurrence of typical mineral bearing formations, or a historical reference to past mineral occurrence, the prospecting area of interest is identified through reconnaissance. This area could range from a single square mile to an entire mountain range of several hundred square miles.

Activity that would take place in an effort to locate a mineral prospect includes more detailed mapping, sampling, geochemical and geophysical study programs. Also, this is the time when property acquisition efforts usually begin and most mining claims are

located in order to secure ground while trying to make a mineral discovery. Prospecting on an annual basis is considered a minimum requirement, under the mining laws, to secure a claim.

Types of surface disturbing activity associated with prospecting would involve more intense soil and rock chip sampling using mostly hand tools, frequent off-road vehicle use, and placement and maintenance of mining claim monuments. This activity is normally considered “casual use” (43 CFR 3809.5) and does not require BLM notification or approval.

**Exploration:** Upon location of a sufficiently anomalous mineral occurrence, or favorable occurrence indicator, a mineral prospect is established and is subjected to more intense evaluation through exploration techniques. Activities that take place during exploration include those utilized during prospecting but at a more intense level in a smaller area. In addition, activities such as road building, trenching, and drilling are conducted. In later stages of exploration, an exploratory adit or shaft may be driven. If the prospect already has underground workings these may be sampled, drilled, or extended. Exploration activities utilize mechanized earth-moving equipment, drill rigs, etc., and may involve the use of explosives.

Typical exploration projects in the planning area could include: instream dredging with portable suction dredges, exploratory drilling which could include construction of new roads, use of explosives to sample rock outcroppings, and excavation of test pits. If the exploration project disturbs 5 acres or less, it is conducted under a notice (43 CFR 3809.301) which requires the operator to notify BLM 15 days before beginning the activity. A copy of each notice received is sent to the Oregon Department of Geology and Mineral Industries for their review. If the project disturbs more than 5 acres, it is conducted under a plan of operations (43 CFR 3809.401) and requires NEPA compliance before approval.

**Mine Development:** If exploration results show that an economically viable mineral deposit is present, activity would intensify to obtain detailed knowledge regarding reserves, possible mining methods, and mineral processing requirements. This would involve applying all the previously utilized exploration tools in a more intense effort. Once enough information is acquired, a feasibility study would be made to decide whether to proceed with mine development and what mining and ore processing methods would be utilized.

Once the decision to develop the property is made, the

mine permitting process begins. Upon approval, work begins on development of the mine infrastructure. This includes construction of the mill, offices, and laboratory; driving of development workings if the property is to be underground mined, or prestripping if it is to be open pit mined; and building of access roads or haulage routes, and placement of utility services. During this time additional refinement of ore reserves is made.

Once enough facilities are in place, actual mine production begins. Concurrent with production there often are “satellite” exploration efforts to expand the mine’s reserve base and extend the project life. Reclamation of the property is conducted concurrently with, or upon completion of, the mining operation. Often subeconomic resources remain unmined and the property is dormant, waiting for changes in commodity price or production technology that would make these resources economic.

Activities that occur on these lands include: actual mining, ore processing, tailings disposal, waste rock placement, solution processing, metal refining, and placement of support facilities such as repair shops, labs, and offices. Such activities involve the use of heavy earthmoving equipment and explosives for mining and materials handling, exploration equipment for refinement of the ore reserve base, hazardous or dangerous reagents for processing requirements, and general construction activities.

The size of mines varies greatly and not all mines would require all the previously mentioned facilities and equipment. Acreage involved can range from less than 5 acres to several hundred. Most mining operations in the sunstone area are under 5 acres. Any mining that involves greater than casual use, regardless of the number of acres, requires the submittal of a plan of operations, and appropriate NEPA analysis, under 43 CFR 3809.401 and .411.

### **Gold**

Based on the mineral exploration activity of the last planning period, and recent discoveries of Tertiary epithermal disseminated gold deposits in the Basin and Range Physiographic Province, it is anticipated that 10 to 15 notices for disseminated gold exploration would be submitted under all alternatives, except Alternative E, over the life of this plan. These notices could be located anywhere, but likely areas include the Coyote Hills, Horsehead Mountain, and Paisley Hills. It is predicted that approximately 10 holes would be drilled utilizing truck mounted drill rigs for each notice. Drill sites would disturb less than 0.1 acre. Temporary

access roads, 10–12 feet wide, would be constructed for about one-third of the drill holes, but in most cases the existing roads would be utilized. Drill holes would be plugged in accordance with state and Federal regulations, and reclamation, including rehabilitation of drill pads and access roads, would be conducted at the conclusion of the exploration program.

In addition to the gold exploration mentioned above, it is anticipated that four notices for instream suction dredging would be filed during the life of the plan. Instream dredging is usually a one to two person operation using a floating suction dredge with a 5 to 7 horsepower engine. The dredge pulls up all the gravel in the stream down to bedrock. The gravels are passed over a sluice box and are returned to the stream without the gold. This process does not require any chemicals. Most of the dredges have an intake nozzle opening of less than 5 inches diameter. Other activities associated with dredging include temporary occupancy and minor road and trail construction. These operations would be monitored pursuant to the regulations found in 43 CFR 3809.

### **Sunstones**

Sunstones are feldspar crystals that formed in a basaltic lava flow. They vary from colorless to straw-colored pink, and occur in varying shades of red and green. They are considered a semiprecious gemstone. Oregon sunstones are uncommon in their composition, clarity, range of colors, and abundance. There are three areas in Oregon where sunstones are known to occur. The Lake County occurrence is the largest, covering over 10 square miles. The two other areas cover approximately 1 square mile each. Transparent feldspar occurrences have been reported from Arizona, California, New Mexico, and Utah, but few gems have been produced from those states. Since the designation of the Oregon sunstone as the State's official gemstone in August of 1987, exploration and mining has steadily increased, and is expected to continue to increase over the life of this plan. The exploration and mining of sunstones are regulated by 43 CFR 3809. Mining claim use and occupancy are regulated by 43 CFR 3710.

Sunstone exploration is usually done by hand-digging, or excavating backhoe or bulldozer trenches. Power or hand augers and truck-mounted drill rigs are sometimes used. Some operators employ blasting, but if not done carefully, fractured stones result. The sunstones are mined from the soil, sediments, and the decomposed rock that result from the weathering of the lava flow. Sunstones can be mined casually by hand, using a pick

and shovel and sieving through a 0.25 inch screen. The stones are separated from the rock fragments by hand. Larger operations use backhoes, bulldozers, conveyors, and automated shakers and screens to increase production. Most of the time, the tailings are deposited directly back into the mining excavation immediately after retrieving the stones. Sometimes the tailings are stockpiled, and returned to the pit after mining ceases.

To date, all operations in the sunstone area have been casual use or notice-level operations as defined in the pre-January 20, 2001, 43 CFR 3809 regulations. The amended regulations, effective January 20, 2001, require the submittal of a plan of operations for all mining operations that exceed casual use, regardless of acres disturbed, and for exploration operations disturbing 5 acres or more. Regardless of the level of operation, reclamation is required, and consists of backfilling, contouring, spreading stockpiled topsoil over the disturbed areas, and, when necessary, reseeding. Over the past 20 years, the Rabbit Basin area has received 146 notices, (about 7 per year), mostly for mining. There are currently 67 active notices. There never have been any plans of operation filed in this area. The average surface disturbance per notice has been about 1 acre, including occupancy. The largest operations have not exceeded 4 acres, including occupancy. Because the amended 3809 regulations now require a plan for any mining, regardless of acres disturbed, notices for mining will no longer suffice. It is anticipated that this area will receive about seven plans of operations each year during the life of this plan. The level of disturbance per plan is expected to be about what it has been in the past for notices. However, assuming the average number of acres disturbed per plan increase to four, over a 20-year period, up to 560 acres would be disturbed. Notice-level exploration would probably disturb less than a total of 5 acres per year, so in 20 years, total disturbance, including disturbance caused from occupancy, exploration, and mining, could reach 660 acres. Because reclamation must follow mining as soon as practicable, as it has in the past, it is estimated that a maximum of 160 acres would be disturbed and unreclaimed at any one time.

Since the 3715 regulations went into effect in August, 1996, 32 occupancy notices have been received (about 6 per year). Currently, there are 18 active occupancies in the Rabbit Basin sunstone area.

Prior to any ground clearing or excavation, site specific cultural resource and sensitive, threatened or endangered species inventories would be done where deemed necessary by a BLM archeologist, botanist, and wildlife biologist, respectively. If any critical values were

identified, the proposed occupancy would be relocated to avoid conflict. Where excavation in excess of 100 square feet would occur, all topsoil and/or growth medium would be removed, stockpiled, windrowed, or otherwise conserved, and if necessary, seeded. Upon termination of occupancy, all structures, foundations, piers, poles, slabs, equipment, materials and debris would be removed from public land. All fences, barriers, and signs would also be removed. The area would be graded to conform with the surrounding topography, scarified if necessary, and the stockpiled topsoil/growth medium would be spread over the disturbance, and revegetated as directed by BLM. Small quantities of native seed mixes would be made available for purchase from BLM for use in reclaiming these sites, and disturbance from exploration and mining.

To minimize disturbance, BLM would encourage the use of temporary structures, such as tents, campers and trailers, over the use of permanent structures such as buildings, homes, or cabins. Occupancy that was not reasonably incident to mining would be eliminated from the public lands.

BLM would attempt to keep the public lands open to public entry at all times. However, where public health and safety are a primary concern, or if it is essential that access be limited to protect valuable mining equipment or supplies from theft or loss, BLM will authorize the placing of fences, gates, barriers, and signs on public land to limit public access.

### **Perlite and Diatomite**

The perlite and diatomite mining operations currently taking place in the LRA, and anticipated in the future, involve similar open-pit mining techniques. The perlite operations differ in that the rock is harder and requires drilling, blasting, and more crushing.

It is anticipated that the Tucker Hill perlite mine would continue to operate throughout the life of this plan. For a description of typical mining operations, and an analysis of impacts, see the "Amended Plan of Operations and Reclamation Plan for the Tucker Hill Perlite Mine," and "Final Environmental Impact Statement, Atlas Perlite, Inc., Tucker Hill Perlite Project" (USDI-BLM 1996), on file in the Lakeview District Office. For the purpose of this land use plan, it is anticipated that the existing mine would expand beyond the scope of the current plan of operations, and that a second mine would be developed somewhere else within the claim block. This would require the filing and approval of new plans of operation and compliance with

the NEPA.

Currently, Oil Dri Corporation is performing reclamation on public lands in Christmas Valley. No mining is currently taking place on public lands, though mining is occurring on adjacent private lands. It is anticipated that Oil Dri would initiate an exploration program consisting of 20 to 50 drill holes and 10 to 30 backhoe trenches on public land during the life of this plan. It is also anticipated that one new open-pit diatomite mine would be located on public land in the Christmas Valley area. This would require a plan of operations and compliance with NEPA.

## **Salable Mineral Resources**

### ***Reasonably Foreseeable Exploration and Development Scenarios (Common to all Alternatives Except Alternative E)***

#### **Future Trends and Assumptions**

The major use of salable minerals (primarily sand, gravel, cinders, and rock) would continue to be in support of the State and county highway and road system, BLM roads, and, to a lesser extent, for private purposes. Decorative rock sales to individuals is expected to increase. It is anticipated that rock and sand and gravel will be needed in about the same quantities as in the past for maintenance and construction of county and State roads and highways.

Existing quarries and pits would most likely would be used for obtaining sand, gravel, cinders and rock, but new site development is not precluded in this plan. Decorative rock sales could be made anywhere throughout the planning area where not precluded by law or policy.

The development and reclamation of mineral material sites would be subject to the Guidelines for Development of Salable Mineral Resources in the Lakeview District, found in Stipulations and Guidelines for Mineral Operations (Appendix N3).

### **Rock Quarry, Sand/Gravel/Cinder Pit Development**

Existing material sites disturb approximately 15–20 acres of land each. This acreage is necessary for the mine itself, rock crushing operations, truck turn-around areas, access trails for bulldozers and drills, overburden stockpile sites, and aggregate stockpile areas. For access to a new quarry site, approximately 0.5 acre of land would be disturbed by new road construction.

It is expected that the existing mineral materials sites in this area would be utilized intermittently throughout the planning period, and that 15 to 30 new sites would be opened up. Any existing pit expansion that causes surface disturbance beyond previously inventoried limits, or the development of any new site, would require resource inventories, site-specific NEPA compliance, and development and reclamation plans.

It is expected that at least 20 depleted mineral material sites would be reclaimed during the life of the plan. After all useable material is removed, reclamation work would be conducted according to an approved interdisciplinary plan. Upon depletion, reclamation work would be conducted on the material sites as well as on all unneeded access roads and trails. Oversize rock would be put back into the quarries or pits, and, where possible, cutslopes would be graded to conform with the existing topography. Stockpiled topsoil would be spread over sideslopes and floors, and seeded as directed by BLM. Access roads and trails would be graded for proper drainage, scarified, and seeded.

### **Decorative Stone**

It is anticipated that the district office would receive 4 to 10 sale requests per year for decorative stone. In most cases, existing roads would provide access to areas where the stone is scattered on the surface. In these areas, the rock would be hand-picked and loaded directly onto pick-ups or flatbed trucks, or onto pallets and then loaded onto trucks. There would be both on- and off-road vehicle travel. There is a possibility that temporary road or trail construction could be necessary to gain access in some areas. Prior to designating an area as a decorative rock gathering area, and prior to any road or trail construction, appropriate inventories and NEPA compliance would be conducted to prevent unnecessary and undue degradation. Reclamation plans would be developed for any designated collecting areas and their access roads and trails.

# Appendix O — Lands

## O2: Public Lands Available for Disposal

Table O2-1 lists public lands available for disposal.

[illegible]



Alternative A		Alternative B		Alternatives C and D	
Legal description	Acres	Legal description	Acres	Legal description	Acres
9: N½, SW¼, N½SE¼;	560	16: W½NE¼, NW¼;	240		
10: NW¼;	160	17: SE¼;	160		
12: SE¼SE¼;	40	20: E½;	320		
13: NE¼;	160	21: All;	640		
17: W½;	320	22: W½NW¼, SE¼NW¼, S½;	440		
18: E½E½;	160	23: All;	640		
20: N½, N½SW¼, SW¼SW¼.	440	24: E½NE¼, W½;	400		
		28: All;	640		
T.26S., R.16E., W.M., Oregon		29: E½, SW¼;	480		
Section		32: N½, N½SW¼, SW¼SW¼,			
7: Lot 4, E½SW¼	120	N½SE¼SW¼, SW¼SE¼; SW¼, E½SE¼,			
		NW¼SE¼;	600		
		33: All;	640		
		34: W½, SE¼.	480		
		T.25S., R.14E., W.M., Oregon			
		Section			
		3: Lots 3, 4, S½NW¼;	158.41		
		4: Lot 2, S½NE¼;	119.27		
		5: S½;	320		
		6: Lots 1, 2, 3, 4, 5, 6, 7, S½NE¼,			
		SE¼NW¼, E½SW¼; N½SE¼;	550.32		
		7: Lots 1, 2, 3, 4, NE¼, E½NW¼,			
		E½SW¼, SE¼;	633.70		
		8: All;	640		
		13: NE¼;	160		
		14: N½NE¼, SW¼NE¼, W½;	440		
		15: E½;	320		
		17: All;	640		
		18: All;	634.51		
		19: Lots 1, 2, NE¼, E½NW¼;	317.92		
		20: N½;	320		
		22: E½, SW¼;	480		
		23: W½;	320		
		26: NE¼, W½;	480		
		27: NW¼, S½;	480		
		31: Lots 1, 2, 3, 4, E½W½;	319.54		
		32: N½SE¼, N½SW¼SE¼,			
		SW¼SW¼SE¼, N½SE¼SW¼SE¼,			
		SW¼SE¼SW¼SE¼ <sup>1</sup> ;	117.50		
		35: E½;	320		
		36: SE¼.	160		
		T.25S., R.15E., W.M., Oregon			
		Section			
		26: W½NW¼, SW¼;	240		
		27: E½E½;	160		

Alternative A		Alternative B		Alternatives C and D	
Legal description	Acres	Legal description	Acres	Legal description	Acres
		28: SW $\frac{1}{4}$ ;	160		
		29: S $\frac{1}{2}$ NW $\frac{1}{4}$ , SW $\frac{1}{4}$ ;	240		
		30: SE $\frac{1}{4}$ ;	160		
		31: NE $\frac{1}{4}$ ;	160		
		32: N $\frac{1}{2}$ NW $\frac{1}{4}$ ;	80		
		33: NW $\frac{1}{4}$ , S $\frac{1}{2}$ ;	480		
		34: NE $\frac{1}{4}$ , S $\frac{1}{2}$ ;	480		
		35: SW $\frac{1}{4}$ .	160		
		T.26S., R.14E., W.M., Oregon			
		Section			
		1: Lots 3,4,5,6,11,12, SW $\frac{1}{4}$ ;	430.21		
		2: Lots 1,2,7,8,9,10, SE $\frac{1}{4}$ ;	428.40		
		4: Lots 13, 15 <sup>1</sup> ;	80.25		
		11: S $\frac{1}{2}$ NW $\frac{1}{4}$ .	80		
		T.26S., R.15E., W.M., Oregon			
		Section			
		1: Lots 1 thru 12;	510.36		
		2: Lots 1 thru 6, 11, 12;	351.44		
		3: Lots 1, 8, 9;	128.08		
		4: S $\frac{1}{2}$ ;	320		
		5: Lots 5, 6, 11, 12, SW $\frac{1}{4}$ ;	320		
		6: SE $\frac{1}{4}$ ;	160		
		7: NE $\frac{1}{4}$ , W $\frac{1}{2}$ SE $\frac{1}{4}$ ;	240		
		8: NW $\frac{1}{4}$ , E $\frac{1}{2}$ SW $\frac{1}{4}$ , SE $\frac{1}{4}$ ;	400		
		9: N $\frac{1}{2}$ , SW $\frac{1}{4}$ , N $\frac{1}{2}$ SE $\frac{1}{4}$ ;	560		
		10: NW $\frac{1}{4}$ ;	160		
		12: SE $\frac{1}{4}$ SE $\frac{1}{4}$ ;	40		
		13: NE $\frac{1}{4}$ ;	160		
		17: W $\frac{1}{2}$ ;	320		
		18: E $\frac{1}{2}$ E $\frac{1}{4}$ ;	160		
		20: N $\frac{1}{2}$ , N $\frac{1}{2}$ SW $\frac{1}{4}$ , SW $\frac{1}{4}$ SW $\frac{1}{4}$ .	440		
		T.26S., R.16E., W.M., Oregon			
		Section			
		7: Lot 4, E $\frac{1}{2}$ SW $\frac{1}{4}$ .	122.66		
Group 1 Total	10,808.49		35,887.29		197.75
<b>Group 2: Public domain</b>					
		<i>Fort Rock/Christmas Valley</i>		<i>Fort Rock/Christmas Valley</i>	
		T.24S., R.18E., W.M., Oregon		T.24S., R.18E., W.M., Oregon	
		Section		Section	
		31: Lot 3, NE $\frac{1}{4}$ SW $\frac{1}{4}$ ;	75.42	31: Lot 3, NE $\frac{1}{4}$ SW $\frac{1}{4}$ .	75.42

Alternative A			Alternative B			Alternatives C and D		
Legal description	Acres	Legal description	Acres	Legal description	Acres	Legal description	Acres	Acres
32: E $\frac{1}{2}$ NW $\frac{1}{4}$ .	80	36: N $\frac{1}{2}$ SE $\frac{1}{4}$ , SW $\frac{1}{4}$ SE $\frac{1}{4}$ .	80	32: E $\frac{1}{2}$ NW $\frac{1}{4}$ .	120	32: E $\frac{1}{2}$ NW $\frac{1}{4}$ .	120	80
T.25S., R.17E., W.M., Oregon Section 11: SE $\frac{1}{4}$ NW $\frac{1}{4}$ .		T.24S., R.14E., W.M., Oregon Section 15: SE $\frac{1}{4}$ ; 20: W $\frac{1}{2}$ NE $\frac{1}{4}$ , NW $\frac{1}{4}$ ; 21: SW $\frac{1}{4}$ SE $\frac{1}{4}$ ; 22: NE $\frac{1}{4}$ , E $\frac{1}{2}$ SE $\frac{1}{4}$ ; 23: N $\frac{1}{2}$ , W $\frac{1}{2}$ SW $\frac{1}{4}$ ; 27: E $\frac{1}{2}$ NW $\frac{1}{4}$ , SW $\frac{1}{4}$ ; 28: NW $\frac{1}{4}$ NE $\frac{1}{4}$ , SE $\frac{1}{4}$ ; 30: SE $\frac{1}{4}$ SW $\frac{1}{4}$ ; 31: NE $\frac{1}{4}$ NW $\frac{1}{4}$ ; 32: NW $\frac{1}{4}$ NW $\frac{1}{4}$ , S $\frac{1}{2}$ SW $\frac{1}{4}$ ; 33: NW $\frac{1}{4}$ NW $\frac{1}{4}$ , S $\frac{1}{2}$ SW $\frac{1}{4}$ ; 34: NE $\frac{1}{4}$ NW $\frac{1}{4}$ .	40	T.25S., R.15E., W.M., Oregon Section 20: NW $\frac{1}{4}$ SE $\frac{1}{4}$ .	160	T.25S., R.15E., W.M., Oregon Section 20: NW $\frac{1}{4}$ SE $\frac{1}{4}$ .	160	40
T.25S., R.18E., W.M., Oregon Section 11: E $\frac{1}{2}$ E $\frac{1}{2}$ , S $\frac{1}{2}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ ; 18: Lots 2, 3, 4, SE $\frac{1}{4}$ NW $\frac{1}{4}$ , E $\frac{1}{2}$ SW $\frac{1}{4}$ ; 23: E $\frac{1}{2}$ NE $\frac{1}{4}$ , N $\frac{1}{2}$ S $\frac{1}{2}$ ; 24: N $\frac{1}{2}$ ; 35: NE $\frac{1}{4}$ .	180 240.87 240 320 160	T.25S., R.19E., W.M., Oregon Section 19: Lots 1, 2, 3, & 4; 20: NE $\frac{1}{4}$ NE $\frac{1}{4}$ .	158.82 40	T.25S., R.16E., W.M., Oregon Section 33: SW $\frac{1}{4}$ NE $\frac{1}{4}$ ; 34: N $\frac{1}{2}$ NW $\frac{1}{4}$ , SE $\frac{1}{4}$ NW $\frac{1}{4}$ .	75.42 80	T.25S., R.16E., W.M., Oregon Section 9: W $\frac{1}{2}$ ; 33: SW $\frac{1}{4}$ NE $\frac{1}{4}$ ; 34: N $\frac{1}{2}$ NW $\frac{1}{4}$ , SE $\frac{1}{4}$ NW $\frac{1}{4}$ .	75.42 80	78.91
T.26S., R.16E., W.M., Oregon Section 33: SW $\frac{1}{4}$ NE $\frac{1}{4}$ ; 34: N $\frac{1}{2}$ NW $\frac{1}{4}$ , SE $\frac{1}{4}$ NW $\frac{1}{4}$ .	40 120	T.25S., R.13E., W.M., Oregon Section 3: Lot 2, SW $\frac{1}{4}$ NE $\frac{1}{4}$ ; 12: W $\frac{1}{2}$ NE $\frac{1}{4}$ , SW $\frac{1}{4}$ SE $\frac{1}{4}$ ; 14: SE $\frac{1}{4}$ SW $\frac{1}{4}$ ; 15: NW $\frac{1}{4}$ ; 16: E $\frac{1}{2}$ NE $\frac{1}{4}$ , S $\frac{1}{2}$ ; 22: NE $\frac{1}{4}$ ; 24: W $\frac{1}{2}$ NE $\frac{1}{4}$ .	40 120	T.26S., R.18E., W.M., Oregon Section 3: SE $\frac{1}{4}$ NE $\frac{1}{4}$ , SW $\frac{1}{4}$ NW $\frac{1}{4}$ ; 9: NE $\frac{1}{4}$ NW $\frac{1}{4}$ ; 10: S $\frac{1}{2}$ ; 11: S $\frac{1}{2}$ ;	80.37 120 40 160 400 160 80	T.26S., R.18E., W.M., Oregon Section 3: SE $\frac{1}{4}$ NE $\frac{1}{4}$ , SW $\frac{1}{4}$ NW $\frac{1}{4}$ ; 9: NE $\frac{1}{4}$ NW $\frac{1}{4}$ ; 10: S $\frac{1}{2}$ ; 11: S $\frac{1}{2}$ .	80.37 120 40 160 400 160 80	320 40 120
T.26S., R.19E., W.M., Oregon Section 29: SE $\frac{1}{4}$ ; 33: S $\frac{1}{2}$ .	160 320	T.25S., R.14E., W.M., Oregon Section 4: Lots 1, 3, 4, S $\frac{1}{2}$ NW $\frac{1}{4}$ ; 5: Lots 1, 2, 3, 4, S $\frac{1}{2}$ N $\frac{1}{2}$ ; 6: S $\frac{1}{2}$ SE $\frac{1}{4}$ ; 13: N $\frac{1}{2}$ NW $\frac{1}{4}$ ; 26: SE $\frac{1}{4}$ ; 36: W $\frac{1}{2}$ NE $\frac{1}{4}$ , NW $\frac{1}{4}$ , N $\frac{1}{2}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ .	160 320	T.26S., R.19E., W.M., Oregon Section 29: SE $\frac{1}{4}$ .	197.75 316 80	T.26S., R.19E., W.M., Oregon Section 29: SE $\frac{1}{4}$ .	197.75 316 80	160
T.27S., R.13E., W.M., Oregon Section 34: SW $\frac{1}{4}$ NE $\frac{1}{4}$ , NW $\frac{1}{4}$ SE $\frac{1}{4}$ .	80	T.25S., R.15E., W.M., Oregon Section 20: NW $\frac{1}{4}$ SE $\frac{1}{4}$ ; 26: E $\frac{1}{2}$ NW $\frac{1}{4}$ ; 28: SE $\frac{1}{4}$ ; 29: E $\frac{1}{2}$ NE $\frac{1}{4}$ , SW $\frac{1}{4}$ NE $\frac{1}{4}$ , SE $\frac{1}{4}$ ;	80	T.27S., R.13E., W.M., Oregon Section 34: SW $\frac{1}{4}$ NE $\frac{1}{4}$ , NW $\frac{1}{4}$ SE $\frac{1}{4}$ .	160 140	T.27S., R.13E., W.M., Oregon Section 34: SW $\frac{1}{4}$ NE $\frac{1}{4}$ , NW $\frac{1}{4}$ SE $\frac{1}{4}$ .	160 140	80
T.27S., R.16E., W.M., Oregon Section 28: W $\frac{1}{2}$ SW $\frac{1}{4}$ .	80	T.27S., R.17E., W.M., Oregon Section 23: SE $\frac{1}{4}$ SE $\frac{1}{4}$ ;	80	T.27S., R.16E., W.M., Oregon Section 23: SE $\frac{1}{4}$ SE $\frac{1}{4}$ ;	40 80 160	T.27S., R.16E., W.M., Oregon Section 23: SE $\frac{1}{4}$ SE $\frac{1}{4}$ ;	40 80 160	80

Alternative A			Alternative B		Alternatives C and D	
Legal description	Acres	Legal description	Acres	Legal description	Acres	Acres
25: NE¼NE¼, S½NE¼, SE¼NW¼, N½S½;	40	32: E¼NE¼, NW¼NE¼, NE¼SE¼;	280	28: W½SW¼.	80	
26: NE¼NE¼;	320	35: N½, W½SE¼;	160			
34: W½NW¼, S½;	40	36: All.	400	T.27S., R.17E., W.M., Oregon		
35: W½SW¼.	400			Section		
T.27S., R.18E., W.M., Oregon	80	T.25S., R.16E., W.M., Oregon		23: SE¼SE¼;	40	
Section		Section		26: NE¼NE¼.	40	
3: N½SW¼, E½SE¼;	160	17: E½SW¼.				
4: N½SE¼;	80			T.27S., R.18E., W.M., Oregon		
8: SE¼NW¼;	40	T.25S., R.17E., W.M., Oregon		Section		
9: SW¼NW¼, W½SW¼, SE¼SW¼;	160	Section		8: SE¼NW¼;		
11: N½SW¼, SW¼SW¼;	120	11: SE¼NW¼.		9: SW¼NW¼, W½SW¼, SE¼SW¼;		40
13: W½SW¼;	80			11: N½SW¼, SW¼SW¼.		160
22: N½NE¼, NE¼NW¼, NW¼SW¼;	160	T.25S., R.18E., W.M., Oregon				120
28: S½NE¼;	80	Section		T.27S., R.19E., W.M., Oregon		
30: Lots 1, 2, 3, NE¼, E½NW¼,	482.79	23: E½NE¼, N½S½;		Section		
NE¼SW¼, N½SE¼.		24: NW¼;		7: Lot 3, E½SW¼.		120.76
		35: NE¼.				
T.27S., R.19E., W.M., Oregon				T.28S., R.13E., W.M., Oregon		
Section		T.25S., R.19E., W.M., Oregon		Section		
7: Lot 3, E½SW¼;	120.76	Section		23: SW¼NW¼, North of County Road #4-		
29: SW¼SW¼;	40	19: Lots 3, & 4.		10.		20
30: SW¼NE¼, SE¼NW¼, E½SW¼,						
W½SE¼, SE¼SE¼;	280	T.26S., R.15E., W.M., Oregon		T.28S., R.15E., W.M., Oregon		
31: NE¼;	160	Section		Section		
32: E½E½, W½W½, SE¼SW¼;	360	1: S½;		14: NW¼NE¼, S½NW¼;		120
33: W½W½, SE¼SW¼.	200	2: Lots 7, 8, 9;		15: NE¼SE¼;		40
		3: SW¼;		22: SE¼NW¼.		40
T.28S., R.14E., W.M., Oregon		4: Lots 3, 4, 5, 6;				
Section		5: Lots 7, 8, 9, 10, SE¼;		T.28S., R.16E., W.M., Oregon		
3: Lot 4;	40.25	7: Lot 4, E½SW¼, E½SE¼;		Section		
4: Lot 1.	40.26	8: W½SW¼;		5: SE¼SE¼;		40
		10: E½, E½SW¼;		15: W½SW¼.		80
T.28S., R.15E., W.M., Oregon		11: N½;				
Section		12: N½, SW¼, N½SE¼, SW¼SE¼;				
11: NW¼SE¼;	40	13: NW¼;				
12: NW¼SW¼, SW¼SE¼;	80	15: NE¼, N½SE¼, SE¼SE¼;				
14: NW¼NE¼, S½NW¼;	120	18: Lots 1, 2, 3, 4, W½E½, E½W½.				
15: NE¼SE¼;	40					
17: SW¼NE¼.	40	T.26S., R.16E., W.M., Oregon				
		Section				
T.28S., R.16E., W.M., Oregon		7: Lot 3, E½NW¼;				
Section		9: W½;				
5: SE¼SE¼;	122.53	33: SW¼NE¼;				
11: S½SE¼;	320	34: N½NW¼, SE¼NW¼.				
15: W½SW¼;	40					
21: NW¼NW¼.	120	T.26S., R.18E., W.M., Oregon				
		Section				

Alternative A		Alternative B		Alternatives C and D	
Legal description	Acres	Legal description	Acres	Legal description	Acres
T.28S., R.17E., W.M., Oregon Section 6: SE $\frac{1}{4}$ NW $\frac{1}{4}$ .	40	3: SE $\frac{1}{4}$ NE $\frac{1}{4}$ , SW $\frac{1}{4}$ NW $\frac{1}{4}$ ; 9: NE $\frac{1}{4}$ NW $\frac{1}{4}$ ; 10: S $\frac{1}{2}$ ; 11: S $\frac{1}{2}$ .	80 40 320 320		
T.28S., R.19E., W.M., Oregon Section 4: SE $\frac{1}{4}$ SE $\frac{1}{4}$ ; 9: NE $\frac{1}{4}$ NE $\frac{1}{4}$ .	40	T.26S., R.19E., W.M., Oregon Section 29: SE $\frac{1}{4}$ .	160		
		T.27S., R.13E., W.M., Oregon Section 34: SW $\frac{1}{4}$ NE $\frac{1}{4}$ , NW $\frac{1}{4}$ SE $\frac{1}{4}$ .	80		
		T.27S., R.15E., W.M., Oregon Section 11: N $\frac{1}{2}$ SW $\frac{1}{4}$ .	80		
		T.27S., R.16E., W.M., Oregon Section 28: W $\frac{1}{2}$ SW $\frac{1}{4}$ .	80		
		T.27S., R.17E., W.M., Oregon Section 23: SE $\frac{1}{4}$ SE $\frac{1}{4}$ ; 26: NE $\frac{1}{4}$ NE $\frac{1}{4}$ .	40 40		
		T.27S., R.18E., W.M., Oregon Section 8: SE $\frac{1}{4}$ NW $\frac{1}{4}$ ; 9: SW $\frac{1}{4}$ NW $\frac{1}{4}$ , W $\frac{1}{2}$ SW $\frac{1}{4}$ , SE $\frac{1}{4}$ SW $\frac{1}{4}$ ; 11: N $\frac{1}{2}$ SW $\frac{1}{4}$ , SW $\frac{1}{4}$ SW $\frac{1}{4}$ .	40 160 120		
		T.27S., R.19E., W.M., Oregon Section 7: Lot 3, E $\frac{1}{2}$ SW $\frac{1}{4}$ .	120.76		
		T.28S., R.13E., W.M., Oregon Section 23: SW $\frac{1}{4}$ NW $\frac{1}{4}$ , North of County Road #4- 10.	20		
		T.28S., R.14E., W.M., Oregon Section 7: NE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ that portion east of Hwy. 31. <sup>2</sup>	4		
		T.28S., R.15E., W.M., Oregon			

Alternative A		Alternative B		Alternatives C and D			
Legal description	Acres	Legal description	Acres	Legal description	Acres		
Group 2 Total	7,259.17	Section 14: NW¼NE¼, S½NW¼; 15: NE¼SE¼; 22: SE¼NW¼.	120 40 40				
		T.28S., R.16E., W.M., Oregon Section 5: SE¼SE¼; 15: W½SW¼.	40 80		3,415.09		
		Group 3: Public Domain					
		Paisley Flat					
		Summer Lake/Paisley/Valley Falls					
		T.32S., R.18E., W.M., Oregon		T.29S., R.17E., W.M., Oregon		Summer Lake/Paisley/Valley Falls	
		Section		Section			
		34: Portions of Lot 1, Lots 2, 3 & Portions of the N¼;	477.40	24: NW¼NE¼, NW¼NW¼; 27: NE¼SE¼, S½SE¼; 34: NE¼NE¼.	80 120 40	24: NW¼NE¼, NW¼NW¼; 27: NE¼SE¼, S½SE¼; 34: NE¼NE¼.	80 120 40
		35: Lots 1, 2, 3 & Portions of the NW¼.	278.02				
		T.32S., R.19E., W.M., Oregon		T.30S., R.18E., W.M., Oregon		T.30S., R.18E., W.M., Oregon	
Section		Section		Section			
33: NE¼, E¼NW¼, SW¼NW¼;	280	5: SE¼NW¼.	40	5: SE¼NW¼.	40		
34: W¼NE¼, SE¼NE¼, NW¼, S½;	600						
35: S½.	320	T.33S., R.18E., W.M., Oregon		T.33S., R.18E., W.M., Oregon			
		Section		Section			
T.33S., R.18E., W.M., Oregon		7: Lot 1.	40.24	3: N½S½SE¼; 7: Lot 1; 10: N½S½SE¼.	40 40.24 40		
Section							
1: Lot 4, SW¼NW¼, SW¼;	239.85	T.35S., R.20E., W.M., Oregon					
2: All;	640.40	Section					
3: Lot 1, Portions of Lots 2, 3, 4, SW¼NW¼, the S¼NE¼, SE¼NW¼, SW¼, N½SE¼, N½S½SE¼;		35: SE¼NE¼, NE¼SE¼.					
4: Portions of Lots 1, 2, 3, 4 and Lots 5 thru 12;	601.28	T.35S., R.21E., W.M., Oregon	80	T.35S., R.20E., W.M., Oregon	80		
9: Lots 1 thru 7, north of Hwy. 31;	348.98	Section		Section			
10: NW¼, N½SW¼, SW¼SW¼ north of Hwy. 31, N½SE¼SW¼, SW¼SE¼SW¼, north of Hwy. 31, N½SW¼SE¼, SE¼SW¼SE¼, SE¼SE¼;	217	28: That portion of the SE¼NW¼ west of Hwy. 395. <sup>3</sup>	5	35: SE¼NE¼, NE¼SE¼.			
11: NE¼, NE¼NW¼, E¼NW¼NW¼, NW¼NW¼NW¼, E¼SE¼NW¼, NW¼SE¼NW¼, NE¼NE¼SW¼, SW¼NW¼SW¼, W½SW¼SW¼,	350						

Alternative A			Alternative B		Alternatives C and D	
Legal description	Acres	Legal description	Acres	Legal description	Acres	
SE <sup>1</sup> / <sub>4</sub> SW <sup>1</sup> / <sub>4</sub> SW <sup>1</sup> / <sub>4</sub> , NW <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> , N <sup>1</sup> / <sub>2</sub> SW <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> , SE <sup>1</sup> / <sub>4</sub> SW <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> ;	370					
12: W <sup>1</sup> / <sub>2</sub> NE <sup>1</sup> / <sub>4</sub> , SE <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> , W <sup>1</sup> / <sub>2</sub> , N <sup>1</sup> / <sub>2</sub> SE <sup>1</sup> / <sub>4</sub> ;	520					
13: S <sup>1</sup> / <sub>2</sub> NE <sup>1</sup> / <sub>4</sub> , NW <sup>1</sup> / <sub>4</sub> , N <sup>1</sup> / <sub>2</sub> S <sup>1</sup> / <sub>2</sub> , NE <sup>1</sup> / <sub>4</sub> SW <sup>1</sup> / <sub>4</sub> SW <sup>1</sup> / <sub>4</sub> ;	410					
14: NE <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> , E <sup>1</sup> / <sub>2</sub> SE <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> , W <sup>1</sup> / <sub>2</sub> NE <sup>1</sup> / <sub>4</sub> NW <sup>1</sup> / <sub>4</sub> , NW <sup>1</sup> / <sub>4</sub> NW <sup>1</sup> / <sub>4</sub> and Portions of S <sup>1</sup> / <sub>2</sub> NW <sup>1</sup> / <sub>4</sub> north of Hwy. 31;	200					
15: NE <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> , NE <sup>1</sup> / <sub>4</sub> NW <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> north of Hwy. 31.	45					
T.33S., R.19E., W.M., Oregon						
Section	640.68					
1: All;	641.76					
2: All;	480.67					
3: Lots 1, 2, S <sup>1</sup> / <sub>2</sub> NE <sup>1</sup> / <sub>4</sub> , S <sup>1</sup> / <sub>2</sub> ;	479.72					
4: Lots 1, 2, S <sup>1</sup> / <sub>2</sub> NE <sup>1</sup> / <sub>4</sub> , S <sup>1</sup> / <sub>2</sub> ;	143.94					
5: Lots 6, 13, SE <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> , NE <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> ;	267.70					
9: Lots 7, 8, NE <sup>1</sup> / <sub>4</sub> , E <sup>1</sup> / <sub>2</sub> NW <sup>1</sup> / <sub>4</sub> ;	320					
10: N <sup>1</sup> / <sub>2</sub> ;	480					
11: N <sup>1</sup> / <sub>2</sub> , NE <sup>1</sup> / <sub>4</sub> SW <sup>1</sup> / <sub>4</sub> , N <sup>1</sup> / <sub>2</sub> SE <sup>1</sup> / <sub>4</sub> , E <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> ;	640					
12: All;	360					
13: NE <sup>1</sup> / <sub>4</sub> , E <sup>1</sup> / <sub>2</sub> NW <sup>1</sup> / <sub>4</sub> , NW <sup>1</sup> / <sub>4</sub> NW <sup>1</sup> / <sub>4</sub> , E <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> .						
Group 3 Total	10,352.40		405.24		400.24	
Group 4: Public Domain						
South Butte Valley						
T.27S., R.22E., W.M., Oregon						
Section		Adel/Plush		Adel/Plush		
26: N <sup>1</sup> / <sub>2</sub> southwest of county road 5-14, S <sup>1</sup> / <sub>2</sub> southwest of county road 5-14;		T.36S., R.22E., W.M., Oregon		T.36S., R.22E., W.M., Oregon		
27: All southwest of county road 5-14;		Section		Section		
34: All;	395	24: SE <sup>1</sup> / <sub>4</sub> SW <sup>1</sup> / <sub>4</sub> , SE <sup>1</sup> / <sub>4</sub> ;	200	23: N <sup>1</sup> / <sub>2</sub> SE <sup>1</sup> / <sub>4</sub> , SW <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> , SE <sup>1</sup> / <sub>4</sub> SW <sup>1</sup> / <sub>4</sub> ;	160	
35: All.	660.99	34: SE <sup>1</sup> / <sub>4</sub> SW <sup>1</sup> / <sub>4</sub> , SW <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> .	80	24: SE <sup>1</sup> / <sub>4</sub> SW <sup>1</sup> / <sub>4</sub> , SE <sup>1</sup> / <sub>4</sub> ;	200	
	671.94			26: NE <sup>1</sup> / <sub>4</sub> NW <sup>1</sup> / <sub>4</sub> , S <sup>1</sup> / <sub>2</sub> NW <sup>1</sup> / <sub>4</sub> ;	120	
	662.16	T.36S., R.28E., W.M., Oregon		34: SE <sup>1</sup> / <sub>4</sub> SW <sup>1</sup> / <sub>4</sub> , SW <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> .	80	
		Section				
		8: SE <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> , SE <sup>1</sup> / <sub>4</sub> SW <sup>1</sup> / <sub>4</sub> , SW <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> , E <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> .	200	T.36S., R.28E., W.M., Oregon		
				Section		
				8: SE <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> , SE <sup>1</sup> / <sub>4</sub> SW <sup>1</sup> / <sub>4</sub> , SW <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> , E <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> .	200	
T.27S., R.23E., W.M., Oregon						
Section						
31: All southwest of county road 5-14;	320	T.37S., R.22E., W.M., Oregon				
32: SW <sup>1</sup> / <sub>4</sub> SW <sup>1</sup> / <sub>4</sub> southwest of county road 5-14.	10	Section		T.37S., R.22E., W.M., Oregon		
		2: Lots 1, 2, 3, 4, S <sup>1</sup> / <sub>2</sub> N <sup>1</sup> / <sub>2</sub> , N <sup>1</sup> / <sub>2</sub> S <sup>1</sup> / <sub>2</sub> ;	480.48	Section		
		12: N <sup>1</sup> / <sub>2</sub> NW <sup>1</sup> / <sub>4</sub> , SW <sup>1</sup> / <sub>4</sub> NW <sup>1</sup> / <sub>4</sub> .	120	2: Lots 1, 2, 3, 4, S <sup>1</sup> / <sub>2</sub> N <sup>1</sup> / <sub>2</sub> , N <sup>1</sup> / <sub>2</sub> S <sup>1</sup> / <sub>2</sub> ;	480.48	
				12: N <sup>1</sup> / <sub>2</sub> NW <sup>1</sup> / <sub>4</sub> , SW <sup>1</sup> / <sub>4</sub> NW <sup>1</sup> / <sub>4</sub> .	120	
T.28S., R.22E., W.M., Oregon						
Section						

### Group 5: Public Domain

Lakeview area

Lakeview area

Lakeview area



Alternative A		Alternative B		Alternatives C and D	
Legal description	Acres	Legal description	Acres	Legal description	Acres
T.39S., R.18E., W.M., Oregon Section 31: Lots 3,4, E½SW¼.	160.05	T.37S., R.21E., W.M., Oregon Section 18: SE¼SE¼; 19: SW¼NE¼, NW¼SE¼; 20: S½NW¼.		T.37S., R.21E., W.M., Oregon Section 18: SE¼SE¼; 19: SW¼NE¼, NW¼SE¼; 20: S½NW¼.	40 80 80
T.40S., R.18E., W.M., Oregon Section 5: W½SW¼; 6: Lots 2,3,10, S½NE¼, NE¼SE¼.	80 234.94	T.39S., R.20E., W.M., Oregon Section 24: W½SW¼, SE¼SW¼.		T.39S., R.18E., W.M., Oregon Section 31: Lot 4. <sup>5</sup>	11
T.40S., R.20E., W.M., Oregon Section 12: S½NE¼, E½SE¼; 13: E½NE¼, SE¼.	160 240	T.40S., R.18E., W.M., Oregon Section 24: SW¼NW¼, W½SW¼. <sup>4</sup>		T.40S., R.18E., W.M., Oregon Section 5: W½SW¼; 6: Lot 3, S½NE¼, NE¼SE¼. <sup>5</sup> 24: SW¼NW¼, W½SW¼. <sup>4</sup>	10 35 120
T.40S., R.21E., W.M., Oregon Section 7: Lots 2,3,4, SE¼NW¼, NE¼SW¼; 18: Lots 1,2,3,4, SE¼SW¼, S½SE¼; 19: Lot 1, NE¼, E½NW¼, NE¼SW¼, W½SE¼; 30: NW¼NE¼, SE¼SE¼; 31: NE¼NE¼, S½NE¼.	398.23 80 120	T.40S., R.20E., W.M., Oregon Section 7: Lots 2,3,4, SE¼NW¼, NE¼SW¼; 18: Lots 1,2,3,4, SE¼SW¼, S½SE¼; 19: Lot 1, NE¼, E½NW¼, NE¼SW¼, W½SE¼; 30: NW¼NE¼, SE¼SE¼; 31: NE¼NE¼, S½NE¼.	190.49 269.98 398.23 80 120		
T.41S., R.21E., W.M., Oregon Section 6: N½NE¼.	80	T.41S., R.21E., W.M., Oregon Section 6: N½NE¼.	80		
Group 5 Total	2,013.69		1,978.70		320

<sup>1</sup> Land would be sold by direct sale to Lake County or other civic-related entity(s) with county approval for Fort Rock community expansion purposes only.

<sup>2</sup> Land would be sold by direct sale to the current owners of the Old Schumacher Ranch.

<sup>3</sup> Land would be sold by direct sale to either the current owners of the River's End Ranch or to Native American Tribal entity(s).

<sup>4</sup> Land would be sold by direct sale to Native American Tribal entity(s) or conveyed to the Bureau of Indian Affairs to be managed in trust for reinterment purposes only. At the discretion of the Lakeview Resource Area Field Manager, any portion of the land not sold to the Tribe(s) may be offered for sale to the general public.

<sup>5</sup> Approximate acreage; above high water line.

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<sup>5</sup> Approximate acreage, above high water line.

# Appendix R — Proposed Monitoring Plan

## Introduction

Chapter 3 of the Lakeview Proposed RMP/Final EIS briefly describes the need for monitoring during the implementation of the RMP. This appendix describes the monitoring that would be conducted over the life of the plan. It describes the specific monitoring strategies and methods that would be implemented to determine if the management goals and actions prescribed for each resource are being achieved and if these resources are moving toward the desired range of conditions.

Monitoring is an essential component of natural resource management because it provides information on the relative success of management strategies. The implementation of the RMP would be monitored to ensure that management actions (1) follow prescribed management direction (implementation monitoring), (2) meet desired objectives (effectiveness monitoring), and (3) are based on accurate assumptions (validation monitoring).

## Types of Monitoring

Monitoring consists of four types:

**Implementation monitoring** — determines whether planned activities have been, or are being, implemented and whether any prescribed standards and guidelines were followed. This type of monitoring asks whether decisions are being implemented and to what extent, and whether appropriate standards and guidelines are being followed. This monitoring continues throughout the life of the RMP.

**Effectiveness monitoring** — determines if the implementation of activities has achieved the desired goals and objectives. Success can be measured against the benchmark of desired range of conditions. This type of monitoring asks whether desired management goals are being achieved and whether we are moving toward desired range of conditions.

**Validation monitoring** — ascertains if cause and effect relationships exist among management activities or resources being managed. This type of monitoring determines whether the predicted results occurred and if assumptions and any models used in developing the plan were correct. This may be expensive and time consuming since results are not known for many years. This type of monitoring is often done by contract or a

cost-share agreement with another agency, academic institution, or other entity.

**Baseline monitoring** — establishes reference conditions by monitoring elements or processes that may be affected by management activities.

Most monitoring related to the RMP will consist of implementation and effectiveness monitoring. There is some overlap among the four types of monitoring.

## Purpose of Monitoring

Monitoring is intended:

- 1) To determine if decisions and management actions prescribed in the RMP are being implemented within the planned timeframes;
- 2) To determine the effects of management actions on the various resources;
- 3) To determine if management actions are achieving resource management goals described in the RMP within the planned timeframes;
- 4) To provide quantifiable data to identify and support needed management actions or changes in management (adaptive management);
- 5) To determine if assumptions and predictions made in the RMP are correct; and
- 6) To provide baseline data in order to determine future changes in resource condition.

The monitoring and plan evaluation process would:

- 1) Focus on RMP goals and management actions to guide key elements to monitor;
- 2) Be developed collaboratively using an interdisciplinary and, where appropriate, intergovernmental team approach;
- 3) Address linkages and relationships among ecosystem components in the planning area;
- 4) Be based on scientific understandings of interactions among ecosystem components and human activities; and

5) Be technically feasible, affordable, and operationally attainable.

## Plan Evaluations

The BLM planning regulations (43 CFR 1610.4-9) call for the monitoring of resource management plans on a continual basis with a formal plan evaluation done at regular intervals. The Lakeview RMP/EIS would be monitored to respond to changing situations. Management actions arising from activity plan decisions would be evaluated to ensure consistency with RMP/EIS objectives. The evaluation makes an overall determination of whether the RMP is still valid or needs to be amended or revised.

Formal plan evaluation will occur at about 5-year intervals and evaluate:

- 1) Whether management actions are resulting in satisfactory progress toward objectives;
- 2) Whether actions are consistent with current policy;
- 3) Whether original assumptions were correctly applied and impacts correctly predicted;
- 4) Whether mitigation measures are satisfactory;
- 5) Whether the RMP is consistent with the plans and policies of state and local government, other Federal agencies and Indian Tribes; and
- 6) Whether new data are available that would require alternation of the plan.

## Monitoring and Watershed/Landscape Level Analysis

Information from such analyses would be used in developing monitoring strategies and objectives. The findings from watershed analyses would be used to reveal the most useful indicators for monitoring environmental change, detect magnitude and duration of changes in conditions, formulate and test hypotheses about the causes of the changes, understand these causes and predict impacts, and manage the ecosystem for desired outcomes. Watershed analysis would provide information about patterns and processes within a watershed and provide information for monitoring appropriate at that scale.

Monitoring could be conducted at multiple scales. Monitoring would be conducted in a manner that

allows localized information to be compiled and considered in a broader regional context, and thereby address both local and regional issues. At the project level, monitoring would examine how well specific management direction has been applied on the ground and how effectively it produces expected results. Monitoring at broader levels would measure how successfully projects and other activities have achieved the objectives for those management areas.

Monitoring would be coordinated with other appropriate agencies and organizations in order to enhance the efficiency and usefulness of the results across a variety of administrative units and provinces. The approach would build on past and present monitoring work.

## Monitoring and Adaptive Management

Monitoring results would provide managers with the information to determine whether an objective has been met, and whether to continue or modify the management direction. Findings obtained through monitoring, together with research and other new information, would provide a basis for adaptive management changes to the plan. The processes of monitoring and adaptive management share the goal of improving effectiveness and permitting dynamic response to increased knowledge and a changing landscape.

As described in Chapter 3, adaptive management is an integral part of RMP implementation. The intent of adaptive management is to incorporate and build on current knowledge, observation, experimentation, and experience to adjust management methods and policies, and to accelerate learning. Adaptive management allows management direction to be modified if a site-specific situation is different than what was assumed during the RMP planning process; if a flood, fire or other event changes the characteristics of the environment; if new information gathered through monitoring indicates objectives are not being met; or if new scientific information indicates a need for a change. Changes to management direction will be made consistent with the requirements of BLM planning regulations and policies.

Monitoring and plan evaluation are an integral part of adaptive management and are key to achieving the short- and long-range management goals of the RMP. Success requires that the effects of this management direction be monitored and evaluated in a timely manner to determine if modifications are needed.

## **RMP Implementation and Monitoring Reporting**

All decisions and management actions in the approved RMP/ROD will be summarized, including estimated target dates for initiation. When the action is implemented, actual initiation and completion dates will be recorded. Information on the implementation of these decisions and management actions will be periodically published in planning updates. Information will be recorded on a form which will be placed with the “master copy” of the RMP. An electronic copy of the form will also be maintained which will be updated as needed. This information will show amount of RMP implementation each fiscal year, as well as the total amount of implementation that has occurred over the life of the plan.

The resource area staff would be responsible for the collection, compilation, and analysis of much of the data gained through monitoring activities. Monitoring results would also be summarized and reported in periodic planning updates. Monitoring data will also be made available upon request.

## **Plan Maintenance**

Minor changes, refinements, or clarifications in the plan are handled through plan maintenance actions. Maintenance actions incorporate minor data changes and are usually limited to minor refinements and documentation. Plan maintenance would not result in expansion of the scope of resource uses or restrictions, or change the terms, conditions, and decisions of the approved RMP/ROD. Maintenance actions do not require a formal public involvement and interagency coordination process. However, reporting of plan implementation and monitoring results are considered plan maintenance actions that are published in periodic planning updates.

## **Plan Amendment/Revision**

If monitoring and evaluation indicate that modifying the plan is necessary, the Field Manager would determine what changes are necessary to ensure that management actions are consistent with the RMP objectives. A plan amendment or revision (with an associated NEPA document) would be prepared. A plan amendment/revision may be initiated because of need to consider monitoring findings, new data, new policy, or a proposed action that may result in a change in the scope of resource uses or a change in the terms, conditions, and decisions of the approved plan.

## **Methods of Monitoring**

The monitoring methods used must be suitable for the vegetation types and resource conditions that will be encountered. The capability to detect subtle changes due to management over short periods of time must be considered.

The monitoring process would collect information in the most cost-effective manner, and may involve sampling or remote sensing. Monitoring could be so costly as to be prohibitive if not carefully and reasonably designed. Therefore, it would not be necessary or desirable to monitor every management action or direction. Unnecessary detail and unacceptable costs would be avoided by focusing on key monitoring questions and proper sampling methods. The level and intensity of monitoring would vary, depending on the sensitivity or the resource or area and the scope of the proposed management activity.

The methods discussed here are currently in use in the LRA or are accepted by BLM policy, are in use by other land management agencies, or are generally accepted as scientifically valid. The monitoring plan would be periodically evaluated to ascertain that the monitoring questions and standards are still relevant, and would be adjusted as appropriate. For monitoring data to be meaningful over time, there must be consistency in the kinds of data that are collected and the manner in which they are collected. However, changes in monitoring methods, levels of monitoring, monitoring cycles, etc., described herein could also occur due to changes in management emphasis, variations in annual funding, or availability of personnel. Some monitoring items may be discontinued and others may be added as knowledge and issues change with implementation. Consideration must be given to the effect changes in methodology will have on the historical value of existing data. Any changes would be documented in periodic planning updates as part of plan maintenance.

## ***Plant Communities***

*Management Goal 1—Restore, protect, and enhance the diversity and distribution of desirable vegetation communities, including perennial native and desirable introduced plant species. Provide for their continued existence and normal function in nutrient, water, and energy cycles.*

Vegetation communities would be monitored to determine progress toward attaining desired range of conditions. Monitoring to determine success in meet-

ing vegetation management objectives would include periodic measurements of plant composition, vigor, and productivity, as well as measurement of the amount and distribution of plant cover and litter which protects the soil surface from raindrop impact, detains overland flow, protects the surface from wind erosion, and retards soils moisture loss through evaporation. Additional data to determine the effectiveness of established tools in meeting objectives may include herbaceous or woody utilization, actual use, and climatic conditions. Recent research by Ponzetti (2000) and Belnap et al. (2001) shows that microbiotic crusts may be indicators (e.g., an early warning system) of rangeland health. Initial monitoring has begun by ecological site inventory crews measuring percent cover of biotic crusts in the northern part of the resource area. Additional research in the Northern Great Basin is needed to determine ecological roles, response to natural and human actions, and management/monitoring techniques for biological soil crusts.

*Management Goal 2—Protect healthy, functioning ecosystems consisting of native plant communities. Restore degraded high-potential landscapes and decadent shrublands.*

In cooperation with the State of Oregon, colleges and universities, USFWS, USFS, ONHP, and private individuals, inventory the distribution and density of special status plants, unique plant communities, and specialized animal habitats. The next step would be to determine and prioritize degraded landscapes for restoration from an ecosystem perspective. Workshops and training for awareness and ability to identify these communities and species would be encouraged. Baseline inventories are being initiated which would be repeated as necessary in subsequent years to observe changes and dynamics of ecosystems.

Monitoring studies would be initiated to evaluate the cost analysis and effectiveness of growing native hand-collected seed in the resource area. Since viability of native versus commercially grown seeds is usually much lower, other avenues could be explored to develop local seed banks.

Monitoring of existing condition of vegetation would consist of identifying ecological sites, determining ecological status, determining soil types, vegetation mapping, baseline inventory, and assembling existing basic information. Procedures used would be primarily those in BLM Technical Reference 1734-7 (USDI-BLM 2001d) and Technical Reference 4400-5 (USDI-BLM 1992c).

Determination of trends in production, structure, composition of vegetation and determination of soil/site stability, watershed function, and integrity of biotic community would be done through the rangeland health assessment process prescribed in the most current versions of “Interpreting Indicators of Rangeland Health” (Shaver et al. 2000), “Rangeland Health Standards and Guidelines” (USDI-BLM 1997a), and BLM Manual 4180 and Handbook H-4180-1 guiding implementation of the rangeland health standards (USDI-BLM 2001b, 2001c).

Plans would be developed in conjunction with Tribal peoples for collection and protection of cultural plants and communities to determine sustainability. Refer to Cultural Resource monitoring section for more information.

### ***Riparian, Watershed, Fish and Aquatic Monitoring***

*Management Goal—Restore, maintain, or improve riparian vegetation, habitat diversity, and associated watershed function to achieve healthy and productive riparian areas and wetlands.*

*Management Goal 1—Protect or restore watershed function and processes which determine the appropriate rates of precipitation capture, storage, and release.*

*Management Goal 2—Ensure that surface water and groundwater influenced by Bureau of Land Management (BLM) activities comply with or are making significant progress toward achieving State of Oregon water quality standards for beneficial uses, as established by the Oregon Department of Environmental Quality (ODEQ).*

*Management Goal—Restore, maintain, or improve habitat to provide for diverse and self-sustaining communities of wildlife, fishes, and other aquatic organisms.*

Most of the current information on riparian/wetland areas in the planning area has been based on assessments of riparian condition and trend. Although the BLM standard is to use proper functioning condition assessments, trend assessments can quickly provide initial information about progress toward desired conditions. Trend assessments include the following: wildlife and aquatic monitoring, water quality monitoring, Rosgen channel typing, riparian site classification and assessment of change over time towards meeting desired range of conditions, low-level aerial photography, and remote-sensing technologies. These are discussed in more detail in the following section.

### **Proper Functioning Condition and Riparian Management Objectives**

Attainment of proper functioning condition (USDI-BLM 1993e, 1998i) objectives is considered a minimum step in the process of achieving desired range of conditions. Proper functioning condition and other riparian objectives (see Appendix F2) in most cases do not equate to the desired range of conditions. Determination of proper functioning condition and riparian management objectives is an interdisciplinary process.

To determine improvement in conditions relating to lotic proper functioning condition, monitoring methods are described for all assessment categories in USDI-BLM Technical Reference 1737-15 (1998i). Table 3-2 shows goals and possible monitoring methods to determine progress toward meeting those goals; this table does not repeat the monitoring described in the proper functioning condition technical reference listed above. Since the ultimate goal is to meet site potential or other riparian management objectives, above minimum proper functioning condition requirements, proper functioning condition inventories will not likely be repeated in the future.

### **Water Quality**

Water quality monitoring would be conducted for various parameters comparing water quality standards to current condition. Specific examples include, but are not limited to:

**Thermographs** — These devices record a temperature at various intervals through the day. When placed in a stream, they record water temperature throughout the day for months at a time. Maximum daily temperatures can be determined by this method. Stream temperature, measured as a 7 day average of daily maximums, is a water quality criteria that the BLM is mandated by the EPA to manage. Cooler stream temperatures are also a critical component of fish habitat, especially for redband trout and Warner suckers. Stream channel and vegetation condition, among other factors, effect water temperature and will be managed by methods described elsewhere.

**Substrate core sampling** — In areas where sediment loading is a concern, a streambed sediment core may be used to determine the amount of fine sediment that has collected in a representative site. If a profile of these cores is taken up and down a stream system, especially just below tributaries, it can be used to identify the origin of major sediment input sources.

### **Riparian Scorecards**

Scorecards for the LRA are currently in development based on riparian ecological site inventories and should be available for field use in 2003. They will identify vegetative conditions that could be present under high condition for a given site considering soil, climate, and water conditions. These cards will be the basis of setting objectives of riparian vegetation condition for any given reach of stream. Monitoring will be based on current vegetation conditions based on potential and measured by change over time towards meeting the goal. Riparian vegetation condition is important for water quality attainment and fish habitat protection. These scorecards will be used in development of total maximum daily loads and used to measure progress toward meeting the terms of the total maximum daily loads. Establishing greenline transects that measure vegetation type and condition will be a basis for tracking changes in vegetation condition over time.

### **Rosgen Level 3 Steam Channel Classification**

There are several factors measured in Rosgen channel classification, including stream channel cross sections and longitudinal profiles, channel material characteristics, meander width ratio, flood prone area, stream sinuosity, and pool and riffle dimensions. Stream reaches, as described by entrenchment, width/depth ratio, sinuosity, gradient and, substrate size are characterized by dimension, pattern, and profile and then compared to what should be there given site conditions. A full level 3 survey will be reserved for project level monitoring or channel condition determination.

Individual aspects of the classification may be used for monitoring specific deficiencies of channel condition. These deficiencies may have been identified in proper functioning condition assessments or stream surveys. For example, width/depth ratio and access to flood plains may have been identified as a reason for impaired function of a stream in proper functioning condition determination. Stream channel cross sections would confirm this assessment and could be used to monitor progress towards improving this condition.

### **Best Management Practices Monitoring**

BMP's designed to minimize impacts to watershed conditions will be specified for each project. Examples of BMP's that may be used are listed in Appendix D. Each year, several projects will be evaluated by resource staff to determine if the BMP's were followed and if they served their intended function. This would be part of the RMP implementation monitoring process

described earlier.

Various methods could be used to track the effects of BMP implementation. For example, if sediment traps were planned to capture silt produced from a wildfire, the trap placement could be confirmed and channel cross sections or sediment cores placed before and after runoff events to determine amount of silt collected on-site or prevented from entering a stream system.

### **Macro-Invertebrate Sampling**

The assemblages of large insects (those that can be seen without a microscope) in a stream indicate many water quality conditions. For example, the presence and relative abundance of certain species may indicate excessive temperature or sediment load. Because the insects exist over a period of time, they tend to represent conditions over a season rather than a short period of time.

### **ARIMS Stream Habitat Survey**

This method of stream survey is specifically used to identify limiting fish habitat conditions, and in combination with fish counts by habitat units, for tracking change in fish populations over time. This survey tracks pool quality and quantity, spawning substrate, bank conditions and cover, pool/riffle ratios, quality and quantity of large wood, channel form and suitable spawning substrates. This survey should be completed every 5 years to determine trends in fish habitat conditions. Data from these surveys would be added to the statewide ARIMS database. Habitat deficiencies could result in specific project development to correct limiting conditions.

### **Photo Points and Aerial Photos**

Photo points have been an integral part of stream condition monitoring in the LRA for many years. Photo sets taken at specific repeatable locations (on some sites since 1978) subjectively show changes in stream channels and vegetation over time. These study points have proven very useful to illustrate changes at specific points over time. Aerial photos show changes in channel and vegetation over the length of a stream. They include enough detail to monitor woody species changes over time.

### **Forest and Woodlands**

Management Goal—*In commercial (pine) forest stands, maintain or restore forest health and meet*

*wildlife habitat needs.*

The acres of commercial (pine and mixed conifer) forest treatments are not predictable. Acres treated (usually by thinning or prescribed burning) would be tracked annually, but not to attain a plan-stated acreage goal. For areas that are treated, periodic ocular estimates will be made to assure compliance with the Forest Management and Prescribed Burning BMP's listed in Appendix D.

An operations inventory is done on a periodic basis to monitor stand composition and structure. Stocking surveys are done before and after thinnings and other treatments. In monitoring stand treatments, a stand exam, based on a series of sample plots, would be made by resource specialists to determine initial stand structure by species, size, and density. This information would then be used to develop a cutting prescription to achieve an improved stand condition of appropriate species, size classes, and a reduced density to fit site conditions. A post-treatment stand exam would be made to evaluate the effectiveness of the thinning treatment in meeting the prescription's goals.

Management Goal—*Restore productivity and biodiversity in western juniper woodlands and quaking aspen groves.*

The total acres of juniper treatments will be tracked annually and compared to limitations stated in the plan. Periodic ocular estimates would be made by resource specialists to assure compliance with the applicable BMP's.

Evaluation of juniper woodlands and aspen treatments are less complex than forest treatments in pine or mixed conifer stands. Ocular estimates would be made to evaluate the intended release of aspen in mixed juniper-aspen stands, the maintenance of old growth juniper on historic juniper sites, and the reduction of invasive juniper elsewhere. Since juniper treatments are usually made for the benefit of resource values other than woodlands, additional monitoring may be done to evaluate vegetative and edaphic responses to juniper removal for the benefit of wildlife habitat, forage, and watershed values.

### **Special Status Plants**

Management Goal 1—*Manage public lands to maintain, restore, or enhance populations and habitats of special status plant species. Priority for the application of management actions would be: (1) Federal endangered or threatened species, (2) Federal pro-*

*posed species, (3) Federal candidate species, (4) State listed species, (5) BLM sensitive species, (6) BLM assessment species, and (7) BLM tracking species.*

Monitoring would include surveys to determine the distribution, resource conditions, and trends of special status plant species and representative habitats. This would include determining plant composition at the site, checking for invasion of exotic species, monitoring localized disturbances (from OHV use, recreational use, etc.), and determining trends in special status plant attributes. Monitoring methods would include establishing photo points and doing periodic ocular surveillance.

Any new ground-disturbing activities or NEPA actions would require a survey clearance for presence or absence of special status plants.

Trends in special status plants and vegetation would be determined and could include such things as demographic studies, density, cover, frequency (in exclosures versus open areas). Methods to accomplish this could include establishing new exclosures to determine effects of use versus nonuse, developing conservation agreements/conservation strategies, and conducting vegetative attribute sampling in accordance with "Measuring and Monitoring Plant Populations" (USDI-BLM 1996b).

Management Goal 2—*Protect, restore, and enhance the variety of plant species and communities in abundance and distributions that provide for their continued existence and normal functioning.*

ACEC/RNA's are monitored on a regular basis to determine if guidelines are being met, and for the condition of the area's values, such as the plant communities and populations. RNA's also increase possibilities of scientific research being carried out on the individual plants. Allotments are evaluated on a regular basis and at that time ACEC/RNA monitoring would be part of the process.

### **Noxious Weeds**

Management Goal—*Control the introduction and proliferation of noxious weeds and competing undesirable plant species, and reduce the extent and density of established populations to acceptable levels.*

Evaluation of treatments would continue in cooperation with the State of Oregon, Lake County, and private interests as well as neighboring counties and Federal jurisdictions. Inventories to identify new introductions,

distribution, and density of noxious weed populations would be carried out on an annual basis in cooperation with the aforementioned entities.

Known noxious weed sites which are identified for treatment will be visited each year and evaluated for effectiveness of control. Known sites not identified for treatment will be visited on a rotational basis over 3 years. All known sites visited will be located with a global positioning system unit, photographed, measured, and a determination of the need for future treatment will be made.

Inventories for new noxious weeds will be conducted each year on a 3-year rotation through the resource area. All burned areas (natural and prescribed) will be surveyed for noxious weeds for 3 years following the burn. Any newly discovered sites will be located with a global positioning system unit, photographed, measured, and a determination of the need for future treatment will be made.

Ecological trends due to changes in vegetation composition over time, in areas dominated by competing undesirable plant species, would be measured through periodic rangeland health assessments following procedures outlined in "Interpreting Indicators of Rangeland Health" (USDI-BLM 1997a).

### **Soils**

Management Goal—*Manage soil and microbiotic crusts on public lands to maintain, restore, or enhance soil erosion class and watershed improvement. Protect areas of fragile soils using best management practices (BMP's).*

Soil health and condition will be monitored by conducting reviews of ground-disturbing projects for implementation and effectiveness of BMP's and assessing undisturbed sites for various parameters including erosion potential and groundcover. Monitoring the effects of other resource management actions such as livestock grazing and watershed projects will consider soil condition and health. Baseline soil condition data is provided through the ecological site inventories (USDI-BLM 2001d) (see Appendix C).

Research into the role and functioning of microbiotic crusts in the Northern Great Basin would be encouraged. This research would focus on determining the validity of using soil crusts as an indicator of environmental impact and system integrity.

After determining the potential for biological crust



development, livestock and other impacts can be evaluated using two criteria: season of use and utilization levels (from monitoring data). Existing ecological site inventory data will expedite this process. The least impact occurs when the crust is moist or frozen (not dry, dormant); and regrowth potential is greatest during periods when cool season moisture is consistent for several weeks. If the crust is fragmented, the soil surface is vulnerable to erosion by wind and water. In addition, the crust fragments can be removed from the site along with surface soil, reducing the potential for future recovery. A biological crust matrix could be created to assist in evaluating potential management actions to negatively impact biological crusts, such as OHV use and livestock grazing (USDA-FS and USDI-BLM 2000b).

Recent research has been carried out by Ponzetti et al. (2001). A two-level field study, including permanent plots and nonpermanent, stratified landscape sampling of biotic crust communities was initiated on parts of the Horse Heaven Hills near Richland, Washington. This research addresses understanding the influence of grazing on the integrity of biotic soil crusts in semiarid rangelands. This model could be implemented in the LRA to help with future management actions by evaluating the permanent plots, calculating the descriptors of the biotic crust community, and then comparing the results. This model could be used to evaluate grazing, fire, and OHV impacts.

### ***Wildlife and Wildlife Habitat***

Management Goal 1—*Facilitate the maintenance, restoration, and enhancement of big game (mule deer, elk, pronghorn, and bighorn sheep) populations and habitat on public land. Pursue management in accordance with Oregon Department of Fish and Wildlife (ODFW) big game species management plans in a manner consistent with the principles of multiple use management.*

Every 5 years, the number of acres of bighorn sheep habitat that has undergone vegetation treatments will be evaluated to determine what percentage of the proposed treatment has been completed. This includes areas proposed for juniper reduction within bighorn sheep habitat.

Every 5 years, evaluate bighorn sheep population levels and distribution within the resource area using annual observations and herd counts conducted by ODFW. Data will be used to help determine areas where habitat is limited and where special management may be needed.

Where vegetation treatments are applied, annually or biannually monitor results with photo points and vegetation sampling that includes species and structural composition of the sites both before and after treatment, if possible. Baseline sheep use patterns and estimated population levels would be calculated using information collected annually from ODFW. These would be compared with post-treatment use patterns and population numbers to determine relative effectiveness of the treatment.

Management Goal 2—*Manage upland habitats, including shrub steppe, forest, and woodlands, so that the forage, water, cover, structure, and security necessary for wildlife are available on public land.*

Annually or semiannually assess landscape changes in big sagebrush habitats from wildfire, prescribed fire, vegetation treatments, insect infestations, or other major influences. These changes will be mapped using global positioning system, geographic information system, and remote sensing technologies. The number of acres will be reported for each type of action. Assessments will be based on changes in size and composition of big sagebrush habitats. Changes will reflect suitability for sagebrush dependant species.

Big sagebrush habitats will be evaluated periodically during Rangeland Health Assessments and after major catastrophic events such as large-scale wildfires. Where necessary, recommendations will be made for protection or restoration of damaged or degraded sagebrush habitats. Annually or biannually monitor areas where habitat treatments occur. Use photo points and vegetation sampling techniques that include species and structural composition of the area before and after treatment, if possible.

Management Goal 3—*Manage upland habitats so that the forage, water, cover, structure, and security necessary for wildlife are available on public land.*

Monitoring of wildlife habitats would be conducted on an allotment basis during allotment evaluations or rangeland health assessments. Assessments will be performed by an interdisciplinary team. This monitoring would determine how closely assessment areas are to meeting desired wildlife habitat conditions. Habitat deficiencies would be corrected by making changes in management or through active habitat restoration.

Where habitat treatments occur, annually or biannually monitor results with photo points and vegetation sampling techniques that include species and structural composition of the area before and after treatment, if

possible.

**Management Goal 4—*Manage livestock forage production to support wildlife population levels identified by the ODFW.***

Forage production and wildlife allocations will be monitored on an allotment basis during allotment evaluations or rangeland health assessments. Annual livestock and wild horse utilization records gathered by BLM staff and wildlife use records reported by ODFW and BLM observations will be used to determine possible conflicts. Differences in use patterns and timing of use between these groups will be evaluated and taken into account. Conflicts in forage allocations between livestock, wild horses, and wildlife will be resolved and new allocations set during the assessments and/or subsequent grazing permit renewals. Impacts to wildlife populations will take into account changes in herd management objectives as set by the ODFW.

### ***Special Status Animal Species***

**Management Goal—*Manage public land to maintain, restore, or enhance populations and habitats of special status animal species. Priority for the application of management actions would be: (1) Federal endangered species, (2) Federal threatened species, (3) Federal proposed species, (4) Federal candidate species, (5) State listed species, (6) BLM sensitive species, (7) BLM assessment species, and (8) BLM tracking species. Manage in order to conserve or lead to the recovery of threatened or endangered species.***

In conjunction with other private, state or Federal agencies, continue to monitor known populations of special status species considered to be sagebrush obligates (such as greater sage-grouse, pygmy rabbit, and kit fox). This monitoring would be accomplished by contract or with the aid of private, state, or Federal employees. Monitoring could consist of intensive research projects or passive population inventories designed to help identify the extent of the populations and what habitats are being used. Inventories would be completed at least once every 10–15 years for each special status species known to occur within the resource area. Information will be used to identify habitats important for the survival of these species.

### ***Livestock Grazing Management***

**Management Goal—*Provide for a sustainable level of livestock grazing consistent with other resource objectives and public land-use allocations.***

Monitoring would include recording actual use, measurements of utilization, continuation of collection of ecological site inventory data and conducting allotment evaluations or rangeland health assessments. Conditions and trends of resources affected by livestock grazing would be monitored to support periodic analysis/evaluation and site-specific adjustments of livestock management actions. Monitoring would determine when grazing would be authorized in burned areas or prescribed burn treatments based on attainment of resource objectives.

### **Actual Use**

Actual use is recorded by the permittees and submitted to the BLM in the form of an actual use report. This report, submitted within 15 days after completing the authorized grazing use, is a record of forage consumed by livestock in terms of AUM's (animal unit months) based on number of livestock and length of grazing use. The report includes livestock numbers, pasture use, turnout dates and gather dates. Actual use reports are submitted for all allotments at the end of the grazing season.

### **Utilization**

Utilization data are collected to determine the percent of forage consumed in an allotment during a particular grazing period. This data, in conjunction with crop year index data is used to calculate the adjusted utilization. Annually, the utilization data gathered in the field and the adjusted utilization allows managers to determine if proper use levels are being met or exceeded, and if distribution of livestock is adequate or in need of improvement and what is necessary to facilitate improvement. Over the long-term, adjusted utilization is used to calculate the proper stocking level of an allotment.

The primary method used in the LRA is the key forage plant method (USDI-BLM 1989f). The key forage plant method is an ocular estimate of utilization within one of the six utilization classes (none, slight, light, moderate, heavy, severe) on one or more key herbaceous and/or browse species. Utilization is generally expressed as a percentage of available forage weight or numbers of plants, twigs, etc., that have been consumed or destroyed, and is expressed in terms of the current year's forage production removed.

### **Trend**

Trend refers to the direction of change and indicates

whether rangeland vegetation is being maintained or is moving toward or away from the desired plant community or other specific vegetation management objectives. Trends may be judged by noting changes in composition, density, cover, production, vigor, age class, and frequency of the vegetation and related parameters of other resources. The trend methods may include step-point nearest plant method, nested frequency, line intercept method, photo plots, and Parker three-step method.

### **Climate**

Climate is monitored at various weather stations in the area. Data collected includes precipitation, temperature, and wind speed. From this data, the crop yield index is calculated. Crop year index is used to calculate the adjusted utilization. Crop yield index is also used in conjunction with the adjusted utilization to determine the potential stocking level of an area.

### **Monitoring Schedule**

Following the completion of the "Lakeview Grazing Management Final Environmental Impact Statement" (USDI-BLM 1982a), the Selective Management Policy was adopted which categorized allotments into one of three management categories: (I) Improve, (M) Maintain, and (C) Custodial. The categorization was based on the following factors: (1) present resource condition, (2) potential productivity, (3) presence of resource conflicts or controversy, (4) present management situation, (5) opportunity for positive economic return, (6) appropriate local factors. This categorization is carried forward into this RMP. Monitoring requirements in the (I) category allotments are the most intensive and are designed to measure progress toward meeting specific objectives. The (I) category allotments have trend plots examined every 3 years and the utilization recorded every time a pasture is used. In the (M) category allotments, monitoring intensity is reduced. The primary emphasis is on monitoring changes from current resource conditions. The utilization level is determined every year. Trend plots are examined every 5 years. Monitoring in the (C) category allotments is limited to periodic inventories and observations to measure long-term resource condition changes. Trends plots are examined once every 10 years.

### **Allotment Evaluations**

Every allotment will undergo an evaluation using the "Healthy Rangelands Standards and Guidelines" (USDI-BLM 1997a) and BLM Manual 4180 and

Handbook H-4180-1 guiding implementation of the rangeland health standards (USDI-BLM 2001b, 2001c) on a periodic basis. Currently, this is expected to occur about once every 10 years, preferably just before or during the permit renewal process for a given allotment. Rangeland health assessments would be completed for all allotments by 2008. Monitoring data would be utilized to determine attainment of the five standards. Progress made to date is described in Table 2-28a of the main text.

### **Wild Horses**

*Management Goal—Maintain and manage wild horse herds in established herd management areas at appropriate management levels to ensure a thriving natural ecological balance between wild horse populations, wildlife, livestock, vegetation resources, and other resource values.*

Aerial and ground census information will continue to be gathered periodically to determine the number of adults and foals, colors, special characteristics, and overall health of the horse herds. Aerial counts are done at minimum of once every 3 years. Data, including the ratio of mares to studs and age class, is collected during gathers and/or at the Burns Horse Adoption Center as horses are processed.

Wild horse actual use of forage is determined by multiplying inventoried or estimated numbers of horses by the length of grazing period on their summer and winter ranges. Utilization and trend study methods are the same as described previously in the Livestock Grazing Management monitoring section.

Data collected in other studies, such as monitoring of special status plants and animals, microbiotic crusts, wildlife, water resources, weeds, riparian, and wetland sources may be used to determine the effects of wild horse management actions on these resources. Results and recommendations will be recorded in allotment evaluations or rangeland health assessments as described in the Livestock Grazing section.

### **Special Management Areas—Areas of Critical Environmental Concern/Research Natural Areas**

*Management Goal—Retain existing and designate new areas of critical environmental concern (ACEC's) and research natural areas (RNA's) where relevance and importance criteria are met and special management is required to protect the identified values.*

Collate existing base information and develop addi-

tional baseline inventories of plant communities following “Research Natural Areas: Baseline Monitoring and Management” (USDA-FS 1984). Periodically monitor the impacts of management actions on resource values, including the health of RNA plant community cells. This would be done using such techniques as photo points, line intercept transects, ocular surveillance, study plots, and value points.

**Lost Forest/Sand Dunes/Fossil Lake ACEC** — In the Lost Forest/Sand Dunes/Fossil Lake ACEC, periodically monitor the eastern dune edges for dune movement/changes over time. Develop baseline markers on trees on the edge of some sand dunes to determine if there is an increase in dune movement. Use existing and ongoing research by the Desert Research Institute (2001) as a baseline for measuring future dune movement. Monitoring methods would include using the global positioning system to establish the leading edge of the eastern dune field, marking trees on northwestern edge of the dune fields, and locating measuring plots.

#### **Special Management Areas—Wilderness Study Areas**

Management Goal—*Wilderness study areas (WSA's) and proposed WSA additions would be managed under the “Interim Management Policy for Lands Under Wilderness Review” (USDI-BLM 1995b). BLM-administered land acquired since the wilderness inventory and determined to have wilderness values would be included in adjacent WSA's.*

Monitoring activities within all WSA's, including any acquired lands that are subsequently included in adjacent WSA's, would follow the direction within the existing wilderness IMP (USDI-BLM 1995b). This policy requires monitoring of all WSA's, at a minimum of once per month during the months the area is accessible by the public, or more frequently if necessary because of potential use activities or other resource conflicts. Methods of monitoring could include aerial surveillance, on-the-ground surveillance, visitor contact, and permit compliance.

#### **Special Management Areas—Wild and Scenic Rivers**

Management Goal—*Protect and enhance outstandingly remarkable values of rivers determined to be administratively suitable for potential inclusion in the national wild and scenic river (WSR) system until Congress acts.*

Annually monitor all rivers, which have been found to be administratively suitable for designation and inclu-

sion in the national wild and scenic river system to ensure the outstandingly remarkable values are protected and the free-flowing condition of the river is maintained consistent with the “National Wild and Scenic River Act.” Monitoring methods could include field surveillance, user contacts, permit review, and photo documentation.

#### **Cultural and Paleontological Resources**

Management Goal 1—*Preserve and protect cultural resources in accordance with existing laws, regulations, and Executive orders, in consultation with Native Americans.*

Management Goal 3—*In consultation with local Native American Tribes, take actions, including designating areas of critical environmental concern (ACEC's), to protect traditional religious sites, landforms, burial sites, resources, and other areas of interest. Nominate as traditional cultural properties those areas that qualify.*

Develop procedures to track consultation and document all written, telephone, electronic, and in-person communications; and review yearly for adequacy related to cultural ACEC's or other important cultural sites. Develop on-the-ground monitoring of identified sites to determine condition, impacts, deterioration, and use of such sites.

The following ACEC's contain cultural resource values and will be visited periodically to determine whether any actions taking place in the area are causing detrimental changes to the cultural values. Any changes will be noted and recorded in the resource area cultural resources data base. Consultation with various Tribal groups with interests in the areas will be conducted periodically to determine if there are concerns from the Tribes or if they have observed changes to the condition of resource values in the area.

*High Lakes:* Visit monthly, April through October

*Lake Abert:* Visit quarterly

*Rahilly-Gravelly:* Visit quarterly

*Red Knoll:* Visit quarterly

*Table Rock:* Visit monthly, April through October

Visits to the ACEC's will be made by the cultural resource specialist or designated representative. During consultation meetings with Tribal staffs, questions, concerns, or observations from specific ACEC's will be recorded. All resulting information will be entered into the resource area cultural resource

data base.

Periodic visitations to other cultural resource sites within all portions of the resource area will be made on a quarterly basis. A minimum of 200 sites per year will be visited. The purpose of the visits will be to monitor the condition of the site and document any disturbance or deterioration of the site. Visitation will be made by the cultural resource specialist or designated representative. The condition of the site and other data collected will be entered into the cultural data base. If the sites are listed on the NRHP or have been determined to be eligible for listing, consultation with the State Historic Preservation Officer will be made, when necessary, to determine the appropriate action to stop the deterioration of the site, provide mitigation, or, in the case of criminal removal of site materials, determine the appropriate legal action to be taken.

Management Goal 2—*Increase the public's knowledge of, appreciation for, and sensitivity to cultural resources, Native American issues, and paleontological resources.*

Monitor the effectiveness of presentations to the public, educational brochures, interpretative materials, informational materials, scientific research collections and materials, and informational displays for the public and scientific communities.

Management Goal 4—*In order to fulfill trust responsibilities with Tribal Peoples, manage public land to maintain, restore, or enhance plant community health and cultural plants. Identify traditional ecological knowledge with humans as part of the ecosystem, and maintain habitat integrity with sustainable yields at a landscape level.*

Cultural plants and their respective plant communities (ethno-habitats) are considered prior to initiating any ground-disturbing projects through the NEPA and botanical clearance processes. Develop plans with Tribal peoples for the collection and protection of cultural plants and continue discussions with Tribal users/communities to determine long-term sustainability. Monitoring methods could include photo plots, plant density quadrats, and ocular estimates and would follow USDA-FS and USDI-BLM (2000c).

### **Human Uses and Activities**

Management Goal—*Manage public lands to provide social and economic benefits to local residents, businesses, visitors, and future generations.*

Use BLM records to determine the amounts of commodity uses (i.e., AUM's, tons of minerals, board feet of special forest, etc.). Monitor employment in related industries using public information sources. Use BLM budget information to project spending to meet environmental quality. Determine amounts spent on new facility construction. Use the recreation management information system and other site-specific measures to determine visitor use levels. Track local versus nonlocal contracts and purchases using BLM procurement records. Track BLM employment levels using payroll records.

### **Air Quality**

Management Goal—*Meet the national ambient air quality standards as described in the "Clean Air Act" (CAA) and follow the direction and requirements of the Southcentral Oregon Fire Management Partnership.*

An emissions information system (called FASTRACS) is used in Oregon to quantify prescribed fire emissions and to track changes in emission productions within the state. Federal land managers will continue to complete smoke management reports and apply appropriate mitigation measures to reduce potential impacts on air quality (USEPA 1992).

There is an air quality monitoring network developed for Oregon that is used to determine whether the national ambient air quality standards are met; monitoring stations are located in Klamath Falls and Lakeview. This monitoring network would continue be used to determine background pollution levels which can help measure emissions increases during fire events.

### **Fire Management**

Management Goal 1—*Provide an appropriate management response on all wildland fires with emphasis on firefighter and public safety. When assigning priorities, decisions would be based on relative values to be protected commensurate with fire management costs.*

Monitoring would determine whether suppression strategies, practices, and activities are meeting resource management objectives and concerns.

Management Goal 2—*Rehabilitate burned areas to mitigate the adverse effects of wildland fire on soil and vegetation in a cost-effective manner and to minimize the possibility of wildland fire recurrence or invasion of weeds.*

**Management Goal 3—*Restore and maintain ecosystems consistent with land uses and historic fire regimes through wildland fire use, prescribed fire, and other methods. Reduce areas of high fuel loading resulting from years of fire suppression that may contribute to extreme fire behavior.***

Monitoring studies are encouraged on all emergency fire rehabilitation projects to determine whether emergency fire rehabilitation objectives were met. Monitoring would be implemented on all projects that employ new techniques, seed mixes, or rehabilitation methods. Emergency fire rehabilitation funds may be used to fund monitoring studies for up to three growing seasons following fire control.

Pre-fire condition and post-fire effects would be determined by monitoring plant community composition and trend in burn areas to determine natural recovery, responses from seed planting, and weed and cheatgrass invasion. Monitoring methods would include establishing photo points, density, cover, frequency plots (pre- and post-burn), and ocular estimates.

FIREMON, a fire effects monitoring and inventory protocol, is being field tested in the sagebrush steppe vegetation type during the summer of 2002. This testing is expected to result in the development of an "Interagency Fire Effects Monitoring Handbook" that would be used in the future.

### **Recreation Resources**

**Management Goal—*Provide and enhance developed and undeveloped recreation opportunities, while protecting resources, to manage the increasing demand for resource-dependent recreation activities.***

Monitoring would occur on an ongoing or annual basis. Monitoring would include periodic patrols to check boundaries, signing, and visitor use; to ensure visitor compliance with rules and regulations; to establish baseline data and observation points to determine current impacts from recreation use; and development of studies to help determine appropriate levels and patterns of recreational use and the influences of other resource uses. Monitoring would focus on visitation levels, compliance with rules, regulations, and permit stipulations for specific sites (developed sites), dispersed uses, and prescribed standards and guidelines as set in the respective recreation opportunity spectrum classes.

Methods of monitoring would include the use of traffic

counters, surveillance at developed recreation sites, limits of acceptable change studies, user contacts, and photo documentation of the changes in resource conditions over time. Monitoring data would be used to manage visitor use, develop plans and projects to reduce visitor impacts, and meet visitor demand.

### **Off-Highway Vehicles**

**Management Goal—*Manage off-highway vehicle (OHV) use to protect resource values, promote public safety, provide OHV use opportunities where appropriate, and minimize conflicts among various users.***

Monitoring OHV uses within the resource area would be ongoing with a focus on compliance with specific designations, as well as determining whether these uses are causing adverse effects on various resources (i.e., soils, water, air, vegetation, fish and wildlife, etc.). Methods of monitoring would include visitor contacts, permit review, visual surveillance, traffic counters, periodic patrols to check boundaries, signing, and visitor use, limits of acceptable change, and/or aerial reconnaissance. Closures would be monitored to ensure public safety and protect affected roadbeds or areas. Baseline data would be established for sites where OHV use is occurring, and sites would be rehabilitated or closed as necessary.

### **Visual Resources**

**Management Goal—*Manage public land actions and activities consistent with visual resource management (VRM) class objectives.***

Monitoring would be ongoing for all projects (including, but not limited to projects associated with any developments, land alterations, vegetation manipulation, etc.) which could potentially affect visual resources. These projects would be monitored to ensure compliance with established VRM classes. Monitoring would include use of the visual contrast rating system, described in BLM Manual 8400 (USDI-BLM, 1984c), where appropriate, during project review. Public land would be managed under VRM classifications as indicated in Table 3-3 of the main text.

### **Energy and Mineral Resources**

**Management Goal 1—*Provide opportunity for the exploration, location, development, and production of locatable minerals in an environmentally sound manner. Eliminate and rehabilitate abandoned mine hazards.***

Monitoring of mining operations or mining claims would be done to ensure compliance with 3803, 3809, and other regulations and conditions of approval, especially preventing “unnecessary or undue degradation” of disturbed areas in coordination with state regulating agencies. Monitoring activities would include periodic field inspections of mining claim activities. BLM policy establishes minimum inspection frequencies for mining operations as follows: quarterly inspections are required for all operations using cyanide, and biannual inspections for all other active operations. Operations in sensitive areas or operations with a high potential for greater than usual impacts would be inspected more often. Vegetation and soil attribute sampling would be conducted. Reclamation would be conducted in accordance with BLM Handbook H-3042-1 (USDI-BLM, 1992b).

*Management Goal 2—Provide leasing opportunity for oil and gas, geothermal energy, and solid minerals in an environmentally-sound manner.*

Monitoring for leasable minerals would be done to ensure compliance with applicable laws, regulations, conditions of leases, and the requirements of approved exploration/development plans. On producing leases, ensure an accurate accounting of material removed, protection of the environment, public health and safety, and identification and resolution of mineral trespass. Monitoring activities would include:

- 1) Periodic field inspection of leasable mineral activities. Inspections would be conducted to determine compliance with applicable laws, regulations, conditions of leases, and the requirements of approved exploration and development plans.
- 2) Applicable resource attribute sampling.

*Management Goal 3—In an environmentally-sound manner, meet the demands of local, state, and Federal agencies, and the public, for mineral materials from public lands.*

Monitoring for salable minerals would be done to ensure compliance with applicable laws, regulations, BLM policy contained in BLM Manual Section 3600, and the requirements of approved mining plans. On producing operations, ensure an accurate accounting of material removed, reclamation, protection of the environment, public health and safety, and identification and resolution of salable mineral trespass. Operations in sensitive environmental areas or operations with a high potential for greater than usual impacts would be inspected more often.

Monitoring activities would include:

- 1) Periodic field inspection of common use areas, and other salable mineral extraction operations. Inspections would be conducted to determine compliance with applicable laws, regulations, and the requirements of approved mining plans.
- 2) Applicable resource attribute sampling.

There are currently two active plans of operations on the LRA. Other plans of operations could be developed and approved during the life of the RMP. Each plan has special stipulations covering the life of plans of operations. These stipulations will be monitored by the compliance officer a minimum of quarterly for each plan of operation and documented in the mining case file. Any noncompliance items will be noted and 3809 procedures followed as directed by the BLM 3809 Manual and Handbook (USDI-BLM 1985c, 1985d).

### ***Lands and Realty***

*Management Goal 1—Retain public land with high public resource values. Consolidate public land in holdings and acquire land or interests in land with high public resource values to ensure effective administration and improve resource management. Acquired land would be managed for the purpose for which it was acquired. Make available for disposal public land within Zone 3 by State indemnity selection, private, or state exchange, “Recreation and Public Purpose Act” lease or sale, public sale, or other authorized method, as applicable.*

Progress on land tenure adjustment actions would be monitored through normal BLM accomplishment tracking processes. Periodic planning updates would be published, identifying acres transferred within the various land tenure zones.

*Management Goal 2—Meet public needs for land use authorizations such as rights-of-way, leases, and permits.*

This decision would be monitored as proposals are evaluated through the NEPA process. Individual projects would be monitored to ensure compliance with the terms and conditions of the authorizing document and through the normal BLM accomplishment tracking process. Periodic planning updates would be published identifying land use authorizations issued during the life of the plan.

*Management Goal 3—Acquire public and administra-*

*tive access to public land where it does not currently exist.*

Public access needs would be reviewed periodically. Access acquisition would be monitored through normal BLM accomplishment tracking processes. Periodic planning updates would be published identifying access acquired during the life of the plan.

Management Goal 4—*Utilize withdrawal actions with the least restrictive measures necessary to accomplish the required purposes.*

Actions would be monitored through the normal BLM accomplishment tracking process. Periodic planning updates would be published identifying areas withdrawn during the life of the plan.

### ***Roads and Transportation***

Management Goal—*Maintain existing roads on the resource area transportation plan and other roads to provide administrative or public access to public land. Construct new roads using best management practices (BMP's) and appropriate mitigation to provide administrative, permitted, and recreational access as needed. Close roads that are not longer needed or that are causing resource damage.*

Roads are usually monitored in conjunction with the conduct of other programs. Roads are also monitored, usually on an annual basis, to determine maintenance needs.

Monitoring of any closed roads would be done in conjunction with monitoring other resource uses such as watershed condition or OHV use. The purpose of the monitoring would be to ensure that closed roads are not being used and that resource damage such as erosion is not occurring.

### ***Hazardous Materials***

All hazardous material (HAZMAT) incidences or contaminant releases on public lands will be cleaned up and administered in compliance with all state and Federal laws and regulations. Site clean-ups will be monitored to protect and safeguard human health, prevent/restore environmental damage, and to limit the BLM's liability. The Lakeview District HAZMAT Coordinator will monitor the performance of the clean-up contractor for all release on public lands to ensure full compliance and damaged land restoration. HAZMAT monitoring data will be kept in monitoring files and in the BLM's site clean-up data base. All data

will be collected at the time and place of the incident or until clean-up is completed and there is no future threat to human health or the environment.

### ***Alkali Lake***

The ODEQ's Alkali Lake chemical waste disposal area will continue to be monitored by BLM in accordance with the existing memorandum of understanding between both agencies. The additional steps taken in 1990 to protect public lands that are threatened by chemical release will continue to be monitored by ODEQ. This monitoring includes conducting periodic well and soil sampling inventories of the area in and around the disposal site. The existing fencing will be maintained by ODEQ. The perimeter warning signs will be replaced as needed. Other monitoring will be done by periodic visits to the site to check boundaries, signing, and visitor use of the area. The number of site visits will be determined by funding levels, with a minimum of one visit annually. These visits will be logged in district central files.



## Appendix S — Planning Data Status

Table S-1 shows land use planning data needs and status.

Table S-1.—Land use planning data needs and status

Planning question addressed	Data set(s) used to address planning questions	Are FGDC metadata available?	Name/source of data standard	Does available data meet a national or regional standard?
<b>Issue 1. Which areas should be designated as ACEC's, RNA's, WSR's or other special designation and how should they be managed?</b>				
a) Which areas should be designated as ACEC's, RNA's, WSR's, or other designations?	<p>"Final Report: Natural Area Inventory for the Lakeview Resource Area, Lakeview District, Bureau of Land Management" (includes maps)</p> <p>"Proposal for the Nomination of the Pronghorn Area of Critical Environmental Concern" (includes maps)</p> <p>"Area of Critical Environmental Concern (ACEC) Nomination Analysis for the Proposed Pronghorn ACEC" (Includes maps)</p> <p>"Lakeview Resource Area Area of Critical Environmental Concern (ACEC) and Research Natural Area (RNA) Nomination Analysis Report" (includes maps)</p>	N/A	Oregon Natural Heritage Program (1992)	No
		N/A	Oregon Natural Desert Association (1998)	No
		N/A	BLM, Lakeview District (1999)	No
		N/A	BLM, Lakeview District (2000)	No
b) Which designations are most appropriate for which areas?	<p>Areas of critical environmental concern proposed by alternative</p> <p>"Chewaucan River Report, Fremont National Forest" (includes maps)</p> <p>"Final Wild and Scenic River Eligibility Determination for Honey and Little Honey Creek" (includes maps)</p> <p>"Wild and Scenic River Evaluation Report for the Lakeview Resource Area" (includes maps)</p> <p>Eligible wild and scenic river segments</p> <p>Suitable wild and scenic rivers proposed by alternative</p> <p>National register historic districts</p> <p>Wilderness study areas</p>	<p>Yes</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>	<p>BLM, Lakeview District</p> <p>USFS and BLM (undated)</p> <p>USFS and BLM (1995)</p> <p>BLM, Lakeview District (1999)</p> <p>BLM, Lakeview District</p> <p>BLM, Lakeview District</p> <p>BLM, Lakeview District</p> <p>BLM, Washington Office</p>	<p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>Yes</p>

Planning question addressed	Data set(s) used to address planning questions	Are FGDC metadata available?	Name/source of data standard	Does available data meet a national or regional standard?
c) How should designated areas be managed?	Road designations proposed by alternative	Yes	BLM, Lakeview District	No
d) What resources will be protected as a result of designation and management?	Off-highway vehicle designations proposed by alternative	Yes	BLM, Lakeview District	No
	Mineral restrictions proposed by alternative	Yes	BLM, Lakeview District	No
e) How would designation and management of areas affect other resources and their management?	Existing withdrawals	Yes	WDL/BLM, Oregon/ Washington State Office	Yes (draft)
	Rights-of-way restrictions proposed by alternative	Yes	BLM, Lakeview District	No
	Grazing allotment boundaries (and exclosures) proposed by alternative	Yes	GRA/BLM, Oregon/Washington Office	Yes
f) What values, particularly economic, will be enhanced or foregone as a result of designation?	Mineral restrictions proposed by alternative	Yes	BLM, Lakeview District	No
	Existing withdrawals	Yes	WDL/BLM, Oregon/ Washington State Office	Yes (draft)
	Rights-of-way restrictions proposed by alternative	Yes	BLM, Lakeview District	No
	Land tenure adjustments proposed by alternative	Yes	BLM, Lakeview District	No
	Grazing allotment boundaries (and exclosures) proposed by alternative	Yes	GRA/BLM, Oregon/ Washington State Office	Yes
g) How should the Lost Forest/Sand Dunes/Fossil Lake existing ACEC be managed?	Historic camping areas in Lost Forest/Sand Dunes/Fossil Lake ACEC/RNA/WSA	Yes	BLM, Lakeview District	No
	Off-highway vehicle designations proposed by alternative	Yes	BLM, Lakeview District	No
	Road designations proposed by alternative	Yes	BLM, Lakeview District	No
h) Should boundaries or management of existing SMA's be changed, and if so, how?	Proposed changes to existing ACEC/RNA boundaries	Yes	BLM, Lakeview District	No
	Road designations proposed by alternative	Yes	BLM, Lakeview District	No
	Warner wetlands ACEC management zones	Yes	BLM, Lakeview District	No
	Potential additions to WSA's	Yes	BLM, Lakeview District	No
	WSA boundary changes proposed by alternative	Yes		No

Planning question addressed	Data set(s) used to address planning questions	Are FGDC metadata available?	Name/source of data standard	Does available data meet a national or regional standard?
<b>Issue 2. How can upland ecosystems be managed and restored to achieve desired future conditions?</b>				
a ) What is the current condition of the various ecosystems and plant communities in the planning area, and how can their conditions be improved or maintained?	Ecological site inventory data Oregon actual vegetation (gap dataset)  Juniper habitats in RMP area Aspen stands in planning area	Yes Yes Yes Yes	BLM, Washington Office GAP/Oregon Natural Heritage Program (1996) BLM, Lakeview District BLM, Lakeview District	Yes Yes No No
b) How should the public lands in the planning area be managed to improve and maintain water quantity and quality and to promote hydrologic recovery?	Road density by watershed and subbasin Juniper firewood cutting areas Juniper treatment areas for bighorn sheep habitat improvement	Yes Yes Yes	BLM, Lakeview District BLM, Lakeview District BLM, Lakeview District	No No No
c) How should the public lands be managed to maintain the existence, promote recovery, and prevent listing of threatened and endangered species?	Greater sage-grouse habitat Greater sage-grouse lek locations Snowy plover habitat Raptor habitat Bighorn sheep habitat Road designations proposed by alternative	Yes Yes Yes Yes Yes Yes	      	No Yes No No Yes No
d) How should vegetation be allocated to provide forage for grazing animals including livestock, wild horses, and wildlife; as well as to provide wildlife habitat and watershed protection?	Grazing allotment boundaries (including exclosures) proposed by alternative  Wild horse herd management areas	Yes  Yes	GRA/BLM, Oregon/ Washington State Office  HMA/BLM, Washington Office	Yes  Yes
e) Where are noxious weeds located in the planning area, and how can their spread be controlled?	Noxious weed inventory	Yes	WEED/BLM, Oregon/ Washington State Office	Yes

Planning question addressed	Data set(s) used to address planning questions	Are FGDC metadata available?	Name/source of data standard	Does available data meet a national or regional standard?
f) What is the fire history in the planning area, and what is the appropriate role of fire in the management of vegetation resources on the public lands?	Prescribed fire history Wildfire history Fire management plan proposed by alternative	Yes Yes Yes	BLM, Lakeview District BLM, Lakeview District BLM, Lakeview District	No Yes No
g) Which best management practices should be implemented to improve and protect watersheds?	Watershed boundaries Streams 303(d) listed streams Roads Grazing allotment boundaries (including exclosures) proposed by alternative Ecological site inventory data	Yes Yes Yes Yes Yes Yes	WS5/BLM, Oregon/ Washington State Office HYD/BLM, Oregon/ Washington State Office "Oregon's 1998 List of Quality Limited Waterbodies" (ODEQ 1998) GTRN/BLM, Oregon/ Washington State Office GRA/BLM, Oregon/ Washington State Office BLM, Washington Office	Yes Yes Yes Yes Yes Yes

Planning question addressed	Data set(s) used to address planning questions	Are FGDC metadata available?	Name/source of data standard	Does available data meet a national or regional standard?
<b>Issue 3. How can riparian areas and wetlands be managed to protect and restore their natural functions?</b>				
a) How should riparian vegetation communities be managed to improve or maintain proper functioning condition?	Riparian score cards		"Riparian Area Management" (BLM)	No
b) What kind of resource uses can be allowed in riparian areas without degrading riparian conditions?	Riparian and wetland proper functioning condition surveys	Yes	"Process for Assessing Proper Functioning Condition" (USDI-BLM 1993a); "Process for Assessing Proper Functioning Condition for Lentic Riparian-Wetland Areas" (USDI-BLM 1994f)	Yes
c) How should riparian systems be managed to improve or maintain habitat quality for fish, wildlife, plants, and invertebrates?	Rosgen stream classification surveys	Yes	"Applied River Morphology" (Rosgen 1996)	Yes
d) How should riparian and wetland areas be managed to incorporate State of Oregon water quality standards and approved management plans addressing water quality concerns?	Watershed boundaries	Yes	WSS/BLM, Oregon/ Washington State Office	Yes
e) How should management actions in upland ecosystems be developed or designed to be compatible with the needs of riparian communities?	Streams	Yes	HYD/BLM, Oregon/ Washington State Office	Yes
	303(d) listed streams	Yes	"Oregon's 1998 List of Quality Limited Waterbodies" (ODEQ 1998)	Yes
f) Which best management practices should be implemented to reduce erosion into streams?	Roads	Yes	GTRN/BLM, Oregon/ Washington State Office	Yes
	Grazing allotment boundaries (including exclosures) proposed by alternative	Yes	GRA/BLM, Oregon/ Washington State Office	Yes
	Livestock grazing files	N/A	BLM, Lakeview District	No
	Ecological site inventory data	Yes	BLM, Washington Office	Yes
	Stream inventory/aquatic resources information system data	Yes	ARIMS/BLM, Oregon/Washington Office	Yes

Planning question addressed	Data set(s) used to address planning questions	Are FGDC metadata available?	Name/source of data standard	Does available data meet a national or regional standard?
	National wetland inventory data	Yes	"Classification of Wetlands and Deepwater Habitats of the United States" (Cowardin et al. 1979)	Yes
<b>Issue 4. How should recreation be managed to meet public demand while protecting natural values and health and safety of the public</b>				
a) What types and levels of recreation should the planning area provide?	Designated recreation areas	Yes	BLM, Lakeview District	No
	Recreation opportunity spectrum management classes proposed for Alternative D	Yes	BLM, Lakeview District	No
b) What role should BLM serve in promoting or providing opportunities for tourism?	Recreation opportunity spectrum management classes proposed for Alternative D	Yes	BLM, Lakeview District	No
c) How should outdoor therapy groups be managed to meet the needs of these groups while ensuring safety of the public and adjacent property owners?	Wilderness therapy school campsite locations		BLM, Lakeview District	No
d) Should other recreation sites be developed to provide for public use?	Designated recreation areas	Yes	BLM, Lakeview District	No
e) Can high use recreation areas such as the Sand Dunes be managed to allow continued recreation use while protecting resources? If so, how?	Historic camping areas in Lost Forest/Sand Dunes/Fossil Lake ACEC/RNA/WSA	Yes	BLM, Lakeview District	No
	Off-highway vehicle designations proposed by alternative	Yes	BLM, Lakeview District	No
	Road designations proposed by alternative	Yes	BLM, Lakeview District	No

Planning question addressed	Data set(s) used to address planning questions	Are FGDC metadata available?	Name/source of data standard	Does available data meet a national or regional standard?
f) How should the extensive recreation management areas be managed?	North Lake Special Recreation Management Area boundary proposed by alternative Existing ACEC/RNA boundaries (for Warner Wetlands extended recreation management area)	Yes	BLM, Lakeview District SMA/BLM, Oregon/ Washington State Office	No Yes (draft)
g) Is the current visual resource management inventory and classification adequate? Does it need to be updated?	Visual resource management classes proposed by alternative	Yes	BLM, Lakeview District	No
h) Is there a need for any additional roads to provide access to areas currently inaccessible to BLM, commercial interests, or the public?	Major road rights-of-way Rights-of-way restrictions proposed by alternative	Yes Yes	BLM, Lakeview District BLM, Lakeview District	No No
i) Which, if any, roads within the existing transportation system should be closed to protect resource values?	Road designations proposed by alternative	Yes	BLM, Lakeview District	No
j) Which areas should be designated open, limited, or closed to motorized vehicle use?	Off-highway vehicle designations proposed by alternative	Yes	BLM, Lakeview District	No
k) Which roads, if any, should be closed or limited in their use?				
l) What roads, if any, are appropriate for special designations such as back country byways or back country discovery routes?	National back country byways National scenic outback	Yes Yes	BLM, Lakeview District BLM, Lakeview District	No No



Planning question addressed	Data set(s) used to address planning questions	Are FGDC metadata available?	Does available data meet a national or regional standard?
<b>Issue 5. How should public lands be managed to meet the needs of local communities and Native American Tribes?</b>			
a) What is an appropriate role for BLM in providing support to local communities?			
b) How should the public lands be managed to provide economic support to local communities?	Mining claims	Yes	No
	Existing rockpits	Yes	No
	Locatable mineral potential	Yes	No
	Leasable mineral potential	Yes	No
	Salable mineral potential	Yes	No
	Subsurface mineral estate	Yes	No
	Subsurface mineral estate in RMP area	Yes	No
	Withdrawals in RMP area	Yes	No
	Mineral restrictions proposed by alternative	Yes	No
	Land tenure zones proposed by alternative	Yes	No
	Major utility corridors in RMP area	Yes	No
	Major road rights-of-way in RMP area	Yes	No
	Rights-of-way avoidance and exclusion areas proposed by alternative	Yes	No
c) How should the public lands be managed to meet the needs of Tribal self-sufficiency and traditions?	Areas of critical environmental concern proposed by alternative	Yes	No
d) How can conflicts between agency actions and Tribal needs and expectations be minimized or avoided?	Cultural site records	No	No

Planning question addressed	Data set(s) used to address planning questions	Are FGDC metadata available?	Name/source of data standard	Does available data meet a national or regional standard?
<i>All questions (base themes)</i>				
	Lakeview RMP area boundary	Yes	BLM, Lakeview District	No
	Surface ownership in RMP area	Yes	BLM, Lakeview District	No
	Major roads in RMP area	Yes	BLM, Lakeview District	No
	Townships in RMP area	Yes	BLM, Lakeview District	No